EXHIBIT B
STATEMENT OF WORK

Title: Test Well Drilling and Pumping Test

Requisition Number: REQ-0023422

SOW Revision Number: 2

Prepared By: Heath Uhrenholdt

Requisition Date: 09/30/2025

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INTEGRATED ACQUISITION TEAM TECHNICAL APPROVAL PAGE
FOR STATEMENT OF WORK Test Well Drilling and Pumping Test

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***The IAT members who must approve in Fusion**

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LIST OF ACRONYMS

Acronym	Definition
ACM	Asbestos Containing Material
AFB	Air Force Base
ANSI	American National Standard Institute
ASME	American Society of Mechanical Engineers
ATV	Acoustic Televiewer
BA	Building Authority
BGS	Below Ground Surface
BOI	Beneficial Occupancy Inspection
CAP	Contractor Acquired Property
CFR	Code of Federal Regulations
cm	Centimeter
CM	Construction Manager
CSM	Certified Safety Manager
°	Degree
DOE	Department of Energy
EJTA	Electronic Job Task Analysis
EPA	Environmental Protection Agency
EPEAT	Electronic Product Environmental Assessment Tool
EPP	Environmentally Preferable Products
ES&H	Environmental Safety and Health
FCR	Field Change Request
FEMP	Federal Energy Management Program
ft	Foot/Feet
FWS	Field Work Supervisor
GFE	Government Furnished Equipment
GFP	Government Furnished Property
gpm	Gallons Per Minute
IAT	Integrated Acquisition Team

Acronym	Definition
IBC	International Building Code
ID	Inside Diameter
IPT	Integrated Project Team
ISSM	Integrated Safeguards & Security Management
JHA	Job Hazard Analyses
K	Potassium
kV	Kilovolt
LAS	Log ASCII Standard
M&O	Maintenance and Operation
M&TE	Measuring & Test Equipment
m	Meter
mg/l	Milligram/Liter
MSTS	Mission Support and Test Services, LLC
LAO	Los Alamos Operations
LO	Livermore Operations
NDEP	Nevada Division of Environmental Protection
NDWR	Nevada Division of Water Resources
NAFB	Nellis Air Force Base
NFO	Nevada Field Office
NLV	North Las Vegas Facility
NNSA	National Nuclear Security Administration
NNSS	Nevada National Security Site
NSF	National Sanitation Foundation
NTP	Notice to Proceed
NTU	Nephelometric Turbidity Unit
OCC	Operations Command Center
OSHA	Occupational Safety and Health Administration
PAAA	Price Anderson Amendments Act
PDF	Portable Document Format
PDS	Product Data Sheets

Acronym	Definition
%	Percent
PMP	Project Management Plan
PO	Purchase Order
PPE	Personal Protective Equipment
ppm	Parts Per Million
QA	Quality Assurance
QAP	Quality Assurance Plan
QC	Quality Control
RCM	Radiological Control Manual
RCP	Radiological Control Plan
RCS	Respirable Crystalline Silica
RFI	Request For Information
RFP	Request for Proposal
RGD	Radiation-Generating Devices
RPP	Radiation Protection Program
RSL-A	Remote Sensing Laboratory - Andrews
RSL-N	Remote Sensing Laboratory - Nellis
RWP	Radiological Work Permit
SDS	Safety Data Sheets
SME	Subject Matter Expert
SOW	Statement of Work
SSSP	Site-Specific Safety Plan
STL	Special Technologies Laboratory
STR	Subcontract Technical Representative
SUP	Superintendent
TBD	To Be Determined
Th	Thorium
TIFF	Tagged Image File Format
TW	Test Well
U	Uranium

Acronym	Definition
USGS	United States Geological Survey
WBT	Web-based Training

B-1 INTRODUCTION/BACKGROUND

Introduction

The Nevada National Security Site (NNSS) is a U.S. Department of Energy, National Nuclear Security Administration (NNSA) installation, operated by Mission Support and Test Services, LLC (MSTS or CONTRACTOR), comprising approximately 3,561 square kilometers (1,375 square miles) of federally owned land located in southeastern Nye County, Nevada. Located approximately 105 kilometers (65 miles) northwest of Las Vegas, Nevada, the NNSS is accessed from U.S. Highway 95, which roughly forms the southern boundary of the site.

The MSTS also operates the North Las Vegas Facility (NLV); the Remote Sensing Lab at Nellis AFB, North Las Vegas, NV (RSLN); the Remote Sensing Lab at Andrews AFB, Maryland (RSLA); Special Technologies Lab at Santa Barbara, CA (STL); Livermore Operations at Livermore, CA (LO); and Los Alamos Operations at Los Alamos, NM (LAO).

Background

The NNSS has active water supply wells that were installed from 1951 to 1990. Historically, the NNSS has asserted federal water rights, and no known record exists indicating a limit to withdrawals across the site; however, water permitting in the state of Nevada has been previously limited based on the annual perennial yield of a hydrographic basin as defined by the Nevada Division of Water Resources (NDWR). The NNSS currently draws most of its groundwater from the Ash Medows Flow System in the eastern half of the site. A long-term goal of the NNSS water system is to balance groundwater water withdrawal across the site by reducing pumping from the eastern basin and increasing withdrawal from the Fortymile Canyon System in the western basin. The test wells to be installed under this project are located in the western basin.

B-2 OBJECTIVE

MSTS requires the services of an experienced SUBCONTRACTOR to provide groundwater exploration well drilling and pumping test services to provide geologic, hydrologic, and water quality data from two test well locations. The test wells will be drilled sequentially, with an anticipated demobilization and remobilization phase between wells. Each well will be included in a separate task order under the subcontract agreement. The MSTS Geosciences Group, United States Geological Survey (USGS), and other MSTS subcontractors will use the results of the first test well to complete groundwater resource evaluations and determine the best location for the second well. If the first well site is favorable for groundwater development, the second test well may not be installed.

B-3 DESCRIPTION OF WORK

The SUBCONTRACTOR shall provide technically qualified resources that work as a part of a team under the direct oversight of MSTS. SUBCONTRACTOR resources shall be responsible for independent planning, organizing, and performing a wide variety of non-hazardous specialized administrative/technical duties in support of the successful completion of goals and deliverables. Additionally, the SUBCONTRACTOR shall furnish all

necessary labor, technical and professional services, supervision, materials, tools, equipment, consumables, and payment of any applicable taxes to perform all operations necessary and required to perform the scope as directed by MSTS.

Unless otherwise approved, the SUBCONTRACTOR shall work in accordance with MSTS subcontract requirements, operating policies and procedures and shall be responsible for execution of the work in accordance with the quality standards and requirements specified for the assigned project and facility.

Required resources (labor, equipment, and material) to accomplish this scope of work include (but are not limited to):

- All personnel, equipment, materials, supplies, fuel, drilling fluids, and other services required to drill up to two (2) 10-inch [25.4-centimeter (cm)] inside diameter (ID) test wells. The maximum depth of the wells below ground surface (bgs), screened intervals, and static water levels are summarized in Table 1 (below).
  - Test Well 02 – TW02 – BASE OPTION
  - Test Well 01 – TW01 – OPTION 1
- NOTE: The information contained in Table 1 is derived from preliminary geologic and hydrologic models completed by the CONTRACTOR. Final depths drilled at each test well location will be determined by the CONTRACTOR based on the geology encountered and the potential groundwater yield.

*Table 1 Modeled Test Well Data**

Test Well (TW)	Hydrographic Area	Maximum Well Depth (ft bgs)	Screened Interval (ft bgs)	Static Water Level (ft bgs)
01 (OPTION 1)	227B Fortymile Canyon Buckboard Mesa	4,425	3,925 – 4,425	647
02 (BASE)	227A Fortymile Canyon Jackass Flats	3,225	2,725 – 3,225	1,619

*Data source: Table 1.1, *Task 2: Regional Water-Level Analysis, based on Pumping from Proposed Wells at the Nevada National Security Site (NNSS)*, Universal Engineering Sciences™, *September 19, 2024*

- General stratigraphic cross sections and hydro stratigraphic model slices can be found in the Regional Water-Level Analysis report cited above. This report will be made available upon request. The subsurface geologic maps shown in the report are based on limited available data. The actual geology encountered during drilling may vary significantly from the cross sections and model slices.
  - The hydro stratigraphic units depicted at TW-01 include interbedded volcanic aquifer and confining units from ground surface to approximately 2,790 feet bgs, and carbonate aquifer deposits to the total depth of the boring at 4,425 feet bgs.
  - The hydro stratigraphic units at TW-02 are depicted as volcanic aquifer and confining units and clastic confining deposits from ground surface to 1310 ft bgs and carbonate aquifer deposits to the total depth of the boring at 3,225 feet bgs. It is the SUBCONTRACTOR's responsibility to be aware of the site-specific geology and drilling conditions when planning and executing all proposed drilling

methods and processes.

B-4 PERIOD OF PERFORMANCE

Test Well 02 (TW02) – BASE CONTRACT

1. CONTRACTOR will initiate construction of the TW02 drill pad on or before July 15, 2026, with anticipated completion prior to August 17, 2026.
2. SUBCONTRACTOR shall be prepared to mobilize their equipment and personnel by May 16, 2027. Completion of drilling, testing, and demobilization shall be on or before August 10, 2027

Test Well 01 (TW01) – OPTION 2

1. CONTRACTOR will initiate construction of the TW01 – TBD (Dependent upon outcome of BASE Contract)
2. SUBCONTRACTOR shall be prepared to mobilize their equipment and personnel - (TBD – Dependent upon outcome of BASE Contract and execution decision by CONTRACTOR)

B-5 PLACE OF PERFORMANCE

Delivery Location

Delivery location will be Nevada National Security Site Receiving Warehouse 160 Mercury, NV 89023 for materials required to be received by the Subcontractor. The Subcontractor shall coordinate with the CONTRACTOR STR prior to scheduling delivery, and throughout delivery, to pick-up.

Work Location

Work will be performed at Nevada National Security Site - Area 30 (TW-01) and Area 25 (TW-02) Mercury, NV 89023. For any work performed on the NNTS site or in an MSTS controlled facility, the provision of the On-Site services shall apply to this subcontract.

Site Access and Work Hours

1. MSTS personnel at the NNSS work a standard 4/10 schedule. The standard work week consists of ten (10) hours of work between 7:00 a.m. and 5:30 p.m., Monday through Thursday with one-half hour designated as an unpaid period for lunch.
   a. This specific scope of work includes operational periods (drilling execution and testing) which requires 24/7 operations.

2. STR personnel must be on site at all times while subcontractor personnel are present, including during 24/7 operations, mobilization, demobilization, and testing.

3. Onsite work performed outside normal operating hours shall be coordinated and/or approved through the STR and/or the Procurement Specialist prior to performing the work.

   a. During drilling operations when drilling circulation must be maintained, the SUBCONTRACTOR has the option to work on a 24-hour/day, 7 day/week schedule. The SUBCONTRACTOR shall notify the CONTRACTOR at least 2 weeks in advance of the need to operate outside the general NNSS work week hours. The CONTRACTOR will support the SUBCONTRACTOR'S work at all times, including during periods of 24/7 operations. Onsite work required to be performed outside normal operating hours shall be coordinated and/or approved through the STR and/or the Procurement Specialist prior to performing work.
   b. It is expected that drilling operations will be conducted on a 24/7 operational basis, requiring the above-referenced coordination through STR personnel.

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B-6 SCOPE OF WORK

1. Scope Option Structure

1.1 BASE: Test Well 02 (TW02) – Area 25 – Along Saddle Mountain Road.
1.2 OPTION 1: Test Well 02 (TW02) Intermediate Casing (Conditional based on downhole geological conditions).
1.3 OPTION 2: Test Well 01 (TW01) – Area 30 – Along Buckboard Mesa Road (Contingent upon outcome and hydrogeologic data evaluation of Option 1).
1.4 OPTION 3: Test Well 01 (TW01) Intermediate Casing (Conditional based on downhole geological conditions).

1.5 OPTION 4: Test Well 02 (TW02) – Area 25 – Third Callout

1.6 OPTION 5: Test Well 01 (TW01) – Area 30 – Third Callout

2. General Tasks and Operational Boundaries

2.1 Provide qualified, approved, and certified Professional personnel in full compliance with SOW requirements.
2.2 Provide all equipment, tools, materials, consumables, and skilled labor necessary for primary operations and secondary support.
2.3 Obtain and maintain all required commercial software licenses for project controls, drafting, surveying, testing calculations, and QA/QC submittals.
2.4 Manage complete personnel logistics, badging, training access, transportation, and equipment staging at the NNSS.
2.5 Furnish and service all field safety infrastructure, including shaded rest facilities, heat illness prevention stations, and certified potable drinking water supplies.
2.6 Target completion of test well drilling, well installation, development, and pumping tests within 2.5 months of Notice to Proceed (NTP) for each authorized well.
2.7 Maintain strict zero-incident Environmental, Safety, and Health (ES&H) operational performance across all project phases.

3. BASE: Test Well 02 (TW02) – Area 25 (Jackass Flats)

3.1 Technical Parameters and Modeled Subsurface Data

3.1.1 Well Location: NNSS Area 25, along Saddle Mountain Road; Hydrographic Area 227A (Fortymile Canyon - Jackass Flats).
3.1.2 Borehole and Well Casing Dimensions: Minimum 36-inch (91.4 cm) diameter conductor borehole; 30-inch (76.2 cm) outer diameter conductor casing; 10-inch (25.4 cm) inside diameter (ID) finished production casing with minimum 3-inch (7.62 cm) annular envelope.
3.1.3 Total Depth: Maximum anticipated borehole depth of 3,225 ft BGS.
3.1.4 Screen Interval: Target completion across 2,725 ft to 3,225 ft BGS (500 ft nominal length).
3.1.5 Static Water Level: Modeled static groundwater level at approximately 1,619 ft BGS.
3.1.6 Subsurface Geologic Profile: Volcanic aquifer and confining units from ground surface to approximately 1,310 ft BGS; carbonate aquifer strata from 1,310 ft BGS to total depth of 3,225 ft BGS.
3.1.7 Pad Dimensions: Total drill pad area restricted to 400 ft × 450 ft.
3.1.8 Governing Schematic: Conceptual Test Well 02 Schematic (Drawing #TW02, Appendix B).

3.2 Detailed Tasks (TW02)

3.3.1 Task 1: Mobilization to Area 25 (TW02)

3.3.1.1 Transport all equipment, rigs, drill pipe, bulk water tanks, generators, and field offices to the

Area 25 location.

3.3.1.2 Submit motorized equipment inventories, horsepower ratings, serial numbers, and photos of equipment nameplates to the STR.

3.3.1.3 Verify that the drilling rig provides a pullback retraction capacity equal to or exceeding total string weight at 3,225 ft plus a 50% factor of safety.

3.3.1.4 Clean and pressure-wash all downhole tooling and surface equipment using phosphate-free soap prior to NNSS entry; furnish formal attestation letter.

3.3.2 Task 2: TW02 Test Well Drilling

3.3.2.1 Drill 0° vertical borehole maintaining a horizontal drift within 1:200 (< 1 ft horizontal drift per 200 ft vertical depth) to total depth (3,225 ft BGS).

3.3.2.2 Drill 36-inch diameter surface borehole to 50 ft BGS; emplace 30-inch conductor casing and pressure-grout with NDWR-compliant neat cement.

3.3.2.3 Continuously collect geologic formation samples at 10-ft (3 m) intervals and primary lithologic contact points, coordinating directly with MSTS Geosciences.

3.3.2.4 Advance borehole sized to accommodate 10-inch ID production casing with a 3-inch annular filter pack space.

3.3.2.5 Perform isolated straddle-packer or perforated-liner zone testing across water-bearing horizons as directed by the CONTRACTOR.

3.3.2.6 Prepare and submit a complete Well Installation Plan for CONTRACTOR review and acceptance prior to casing and screen placement.

3.3.3 Task 3: TW02 Well Deviation Survey

3.3.3.1 Perform gyroscopic surveys (Reflex Gyro™, Gyro Path®, or equivalent inertial navigation tool) at every other drill rod change (40 to 80 ft).

3.3.3.2 Document inclination and drift measurements in the Daily Drilling Report; adjust bit weight, rotational speed, and mast level to ensure verticality.

3.3.4 Task 4: TW02 Geophysical Logging

3.3.4.1 Condition borehole (flush mud, clear bottom cuttings) prior to logging tool deployment; document any perched water or static water depths.

3.3.4.2 Provide geophysical logging services for two (2) separate callouts: Callout 1 (0 to 1,500 ft BGS) and Callout 2 (1,500 ft BGS to 3,225 ft BGS), with an optional third callout if authorized.

3.3.4.3 Mobilize logging crew and redundant backup logging tools to site within 24 hours of callout notification by the STR.

3.3.4.4 Collect geophysical logging suite: Multi-Arm (4+) Caliper, Spectral Gamma (U, Th, K, Total), Spontaneous Potential, Induction Resistivity/Conductivity, Sonic, Formation Micro-Imager, Acoustic Televiewer (ATV), Deviation, and Temperature.

3.3.4.5 Transmit preliminary field data logs within 24 hours; transmit final digital log files (LAS, PDF, TIFF) within 72 hours.

3.3.5 Task 5: TW02 Well Installation

3.3.5.1 Install 10-inch ID casing and matched-diameter corrosion-resistant well screen across target interval (2,725–3,225 ft BGS) sized to retain ≥90% of filter pack.

3.3.5.2 Emplace washed, graded filter pack (uniformity coefficient ≤ 2.5) via positive displacement tremie pipe; sound depth every 40 ft; extend pack ≥40 ft (12.2 m) above top of screen.

3.3.5.3 Place a minimum 10 ft (3 m) layer of time-release coated bentonite pellets above the filter pack.

3.3.5.4 Pressure-grout the remaining annulus to ground surface using neat cement grout placed in a single continuous pour.

3.3.6 Task 6: TW02 Well Development

3.3.6.1 Develop the completed well using mechanical surging, high-velocity jetting, air-surging, and air-lift pumping until turbidity is ≤ 5 NTU and discharge is sand-free. Over-pumping alone is strictly prohibited.

3.3.6.2 Disinfect completed well using a chlorine solution (≥50 mg/L free chlorine throughout the full submerged depth) with minimum contact time of 12 hours.
3.3.6.3 Dechlorinate and neutralize discharge water to < 10 ppm chlorine prior to surface release at a point ≥200 ft downgradient of well collar.

3.3.7 Task 7: TW02 Pumping Tests

3.3.7.1 Install submersible test pump (flow capacity up to 350 gpm) with surface control valve, non-slam check valve, and calibrated totalizing flow meters.
3.3.7.2 Assist USGS in setting automated pressure transducers; maintain redundant manual water level measurements (to nearest 0.01 ft).
3.3.7.3 Execute Step-Rate Test: Four (4) consecutive 100-minute steps at 25%, 50%, 75%, and 100–110% of planned constant rate; monitor water recovery for 24 hours or until within 0.05 ft of pre-test static level.
3.3.7.4 Execute Constant-Rate Test: Minimum continuous 72 hours at designated rate (up to 350 gpm) within ±5% flow rate tolerance without unapproved interruption.
3.3.7.5 Execute Recovery Test: Record recovery water levels following pump shutdown for a duration equal to the pumping duration or until water level recovers within 0.05 ft of static level.
3.3.7.6 Convey pumped discharge effluent a minimum distance of 1,500 ft (457 m) away from test and observation wells to prevent artificial recharge.

3.3.8 Task 8: TW02 Water Quality Sampling

3.3.8.1 Install an inline sampling port on the discharge piping assembly.
3.3.8.2 Facilitate groundwater sampling access for MSTS technical personnel who will collect and analyze geochemical samples.

3.3.9 Task 9: TW02 Reporting

3.3.9.1 Transmit Daily Drilling Report by 09:00 PST daily.
3.3.9.2 Transmit Daily Subcontract Activity Report (hours, costs, consumables, quantities) for invoice validation.
3.3.9.3 Submit Daily Safety Report to on-site Safety Professional and STR.
3.3.9.4 Submit comprehensive Well Summary Report within 30 days of completing field operations.

3.3.10 Task 10: Demobilization

3.3.10.1 Remove all drilling rigs, support trailers, temporary piping, tanks, and rented items from the Area 25 location.
3.3.10.2 Restore disturbed pad and laydown surfaces to pre-existing condition.

3.3.11 Task 11: Project Closeout

3.3.11.1 Submit final as-built drawings, CAD files, driller logs, geophysical data packages, and certified records within 60 days of field completion.
3.3.11.2 Complete all formal punch-list verification items with the STR and CM.

4. OPTION 1: TW02 Intermediate Casing (If Required)

4.1 In the event unstable lithology, severe lost circulation, or borehole collapse conditions are encountered in the upper volcanic/clastic confining section above 1,720 ft BGS, the SUBCONTRACTOR shall install an intermediate casing string upon approval of the STR.

4.2 Intermediate casing installation shall consist of a 20-inch (50.8 cm) nominal intermediate casing placed within a 24-inch (60.9 cm) nominal intermediate borehole drilled to approximately 1,720 ft BGS.

4.3 Install intermediate casing string in accordance with Option 1 if required by geological conditions.

4.4 The annular space between the borehole and the intermediate casing shall be filled with neat cement backfill to surface or as approved by the STR.

4.5 Option 1 costs and activities shall be itemized separately as a conditional line item within the Schedule of Values and Work Plan.

5. Option 2: Test Well 01 (TW01) – Area 30 (Buckboard Mesa)

5.1 Technical Parameters and Modeled Subsurface Data

5.1.1 Well Location: NNSS Area 30, along Buckboard Mesa Road; Hydrographic Area 227B (Fortymile Canyon - Buckboard Mesa).
5.1.2 Borehole and Well Casing Dimensions: Minimum 36-inch (91.4 cm) diameter conductor borehole; 30-inch (76.2 cm) outer diameter conductor casing; 10-inch (25.4 cm) inside diameter (ID) finished production casing with minimum 3-inch (7.62 cm) annular envelope.
5.1.3 Total Depth: Maximum anticipated borehole depth of 4,425 ft BGS.
5.1.4 Screen Interval: Target completion across 3,925 ft to 4,425 ft BGS (500 ft nominal length).
5.1.5 Static Water Level: Modeled static groundwater level at approximately 647 ft BGS.
5.1.6 Subsurface Geologic Profile: Interbedded volcanic aquifer and confining units from ground surface to approximately 2,790 ft BGS; carbonate aquifer strata from 2,790 ft BGS to total depth of 4,425 ft BGS.
5.1.7 Pad Dimensions: Total drill pad area restricted to 200 ft × 400 ft.
5.1.8 Governing Schematic: Conceptual Test Well 01 Schematic (Drawing #TW01, Appendix B).

5.2 Option 2 Detailed Tasks (TW01)

5.2.1 Task 1: Remobilization to Area 30 (TW01)

5.2.1.1 Mobilize all equipment, rigs, drill pipe, bulk water tanks, generators, and field offices to the Area 30 location upon receipt of NTP for Option 2.
5.2.1.2 Submit motorized equipment inventories, horsepower ratings, serial numbers, and photos of equipment nameplates to the STR.
5.2.1.3 Verify that the drilling rig provides a pullback retraction capacity equal to or exceeding total string weight at 4,425 ft plus a 50% factor of safety.
5.2.1.4 Clean and pressure-wash all downhole tooling and surface equipment using phosphate-free soap prior to NNSS entry; furnish formal attestation letter.

5.2.2 Task 2: TW01 Test Well Drilling

5.2.2.1 Drill 0° vertical borehole maintaining a horizontal drift within 1:200 (< 1 ft horizontal drift per 200 ft vertical depth) to total depth (4,425 ft BGS).
5.2.2.2 Drill 36-inch diameter surface borehole to 50 ft BGS; emplace 30-inch conductor casing and pressure-grout with NDWR-compliant neat cement.
5.2.2.3 Continuously collect geologic formation samples at 10-ft (3 m) intervals and primary lithologic contact points, coordinating directly with MSTS Geosciences.
5.2.2.4 Advance borehole sized to accommodate 10-inch ID production casing with a 3-inch annular filter pack space.
5.2.2.5 Perform isolated straddle-packer or perforated-liner zone testing across water-bearing horizons as directed by the CONTRACTOR.
5.2.2.6 Prepare and submit a complete Well Installation Plan for CONTRACTOR review and acceptance prior to casing and screen placement.

5.2.3 Task 3: TW01 Well Deviation Survey

5.2.3.1 Perform gyroscopic surveys (Reflex Gyro™, Gyro Path®, or equivalent inertial navigation tool) at every other drill rod change (40 to 80 ft).
5.2.3.2 Document inclination and drift measurements in the Daily Drilling Report; adjust bit weight, rotational speed, and mast level to ensure verticality.

5.2.4 Task 4: TW01 Geophysical Logging

5.2.4.1 Condition borehole (flush mud, clear bottom cuttings) prior to logging tool deployment; document any perched water or static water depths.
5.2.4.2 Provide geophysical logging services for two (2) separate callouts: Callout 1 (0 to 1,500 ft BGS) and Callout 2 (1,500 ft BGS to 4,425 ft BGS)
5.2.4.3 Mobilize logging crew and redundant backup logging tools to site within 24 hours of callout

notification by the STR.

5.2.4.4 Collect geophysical logging suite: Multi-Arm (4+) Caliper, Spectral Gamma (U, Th, K, Total), Spontaneous Potential, Induction Resistivity/Conductivity, Sonic, Formation Micro-Imager, Acoustic Televiewer (ATV), Deviation, and Temperature.

5.2.4.5 Transmit preliminary field data logs within 24 hours; transmit final digital log files (LAS, PDF, TIFF) within 72 hours.

5.2.5 Task 5: TW01 Well Installation

5.2.5.1 Install 10-inch ID casing and matched-diameter corrosion-resistant well screen across target interval (3,925–4,425 ft BGS) sized to retain ≥90% of filter pack.

5.2.5.2 Emplace washed, graded filter pack (uniformity coefficient ≤ 2.5) via positive displacement tremie pipe; sound depth every 40 ft; extend pack ≥40 ft (12.2 m) above top of screen.

5.2.5.3 Place a minimum 10 ft (3 m) layer of time-release coated bentonite pellets above the filter pack.

5.2.5.4 Pressure-grout the remaining annulus to ground surface using neat cement grout placed in a single continuous pour.

5.2.6 Task 6: TW01 Well Development

5.2.6.1 Develop the completed well using mechanical surging, high-velocity jetting, air-surging, and air-lift pumping until turbidity is ≤ 5 NTU and discharge is sand-free. Over-pumping alone is strictly prohibited.

5.2.6.2 Disinfect completed well using a chlorine solution (≥50 mg/L free chlorine throughout the full submerged depth) with minimum contact time of 12 hours.

5.2.6.3 Dechlorinate and neutralize discharge water to < 10 ppm chlorine prior to surface release at a point ≥200 ft downgradient of well collar.

5.2.7 Task 7: TW01 Pumping Tests

5.2.7.1 Install submersible test pump (flow capacity up to 350 gpm) with surface control valve, non-slam check valve, and calibrated totalizing flow meters.

5.2.7.2 Assist USGS in setting automated pressure transducers; maintain redundant manual water level measurements (to nearest 0.01 ft).

5.2.7.3 Execute Step-Rate Test: Four (4) consecutive 100-minute steps at 25%, 50%, 75%, and 100–110% of planned constant rate; monitor water recovery for 24 hours or until within 0.05 ft of pre-test static level.

5.2.7.4 Execute Constant-Rate Test: Minimum continuous 72 hours at designated rate (up to 350 gpm) within ±5% flow rate tolerance without unapproved interruption.

5.2.7.5 Execute Recovery Test: Record recovery water levels following pump shutdown for a duration equal to the pumping duration or until water level recovers within 0.05 ft of static level.

5.2.7.6 Convey pumped discharge effluent a minimum distance of 1,500 ft (457 m) away from test and observation wells to prevent artificial recharge.

5.2.8 Task 8: TW01 Water Quality Sampling

5.2.8.1 Install an inline sampling port on the discharge piping assembly.

5.2.8.2 Facilitate groundwater sampling access for MSTS technical personnel who will collect and analyze geochemical samples.

5.2.9 Task 9: TW01 Reporting

5.2.9.1 Transmit Daily Drilling Report by 09:00 PST daily.

5.2.9.2 Transmit Daily Subcontract Activity Report (hours, costs, consumables, quantities) for invoice validation.

5.2.9.3 Submit Daily Safety Report to on-site Safety Professional and STR.

5.2.9.4 Submit comprehensive Well Summary Report within 30 days of completing field operations.

5.2.10 Task 10: Demobilization

5.2.10.1 Remove all drilling rigs, support trailers, temporary piping, tanks, and rented items from the

Area 30 location.
5.2.10.2 Restore disturbed pad and laydown surfaces to pre-existing condition.

5.2.11 Task 11: Project Closeout

5.2.11.1 Submit final as-built drawings, CAD files, driller logs, geophysical data packages, and certified records within 60 days of field completion.
5.2.11.2 Complete all formal punch-list verification items with the STR and CM.

6. Option 3: TW01 Intermediate Casing (If Required)

6.1 In the event unstable lithology, severe lost circulation, or borehole collapse conditions are encountered in the volcanic/confining formation above 1,900 ft BGS, the SUBCONTRACTOR shall install an intermediate casing string upon approval of the STR.

6.2 Intermediate casing installation shall consist of a 20-inch (50.8 cm) nominal intermediate casing placed within a 24-inch (60.9 cm) nominal intermediate borehole drilled to approximately 1,900 ft BGS.

6.3 Install intermediate casing string in accordance with Option 1 if required by geological conditions.

6.4 The annular space between the borehole and the intermediate casing shall be filled with neat cement backfill to surface or as approved by the STR.

6.5 Option 1 costs and activities shall be itemized separately as a conditional line item within the Schedule of Values and Work Plan.

7. Option 4 – Test Well 02 (TW02) – Third Callout

7.1 Depending on required depth of test well, a third callout may be required.

7.1.1 Pricing for third callout must be represented independently on consideration schedule

7.2 Third callout will only be conducted if requested/required by CONTRACTOR

7.3 Include all operational time required/anticipated while Callout is being executed

7.4 Third callout parameters will be TBD and provided by CONTRACTOR when requested/required.

8. Option 5 – Test Well 01 (TW01) – Third Callout

8.1 Depending on required depth of test well, a third callout may be required.

7.1.1 Pricing for third callout must be represented independently on consideration schedule

8.2 Third callout will only be conducted if requested/required by CONTRACTOR

8.3 Include all operational time required/anticipated while Callout is being executed

8.4 Third callout parameters will be TBD and provided by CONTRACTOR when requested/required.

9. Sequencing

9.1 In general, field operations shall proceed sequentially from Task 1 through Task 11 within each option.
9.2 Work on TW02 (BASE) must be completely executed, tested, and evaluated by MSTS and USGS prior to exercising Option 2.
9.3 A complete equipment demobilization from Area 25 and remobilization to Area 30 is required between options.

10. Acceptance Criteria

6.1 Vertical borehole plumbness and alignment within 1:200 tolerance (< 1 ft drift per 200 ft vertical depth).
6.2 Well casing, screen, and annular filter pack placed according to the approved Well Installation Plan with soundings every 40 ft.
6.3 Continuous neat cement surface seal installed from top of bentonite pellet seal to surface.

6.4 Well development completed to ≤ 5 NTU effluent turbidity and sediment-free return.
6.5 Well disinfection contact time ≥ 12 hours with residual neutralized to < 10 ppm prior to disposal.
6.6 Pumping tests maintained within ±5% of selected flow rate without unapproved mechanical disruption.
6.7 Timely transmittal and technical concurrence on all daily logs, deviation surveys, and closeout packages.

11. Site Conditions and Known Hazards

11.1 Asbestos: Not expected. If encountered, work stops immediately, and an Asbestos Abatement Plan per 29 CFR 1926.1101 is required.
11.2 Silica: Expected during drilling and cuttings handling. Compliance with 29 CFR 1926.1153 is mandatory. The MSTS Occupational Exposure Limit is 25 µg/m³ (8-hour TWA), which is more stringent than OSHA PEL (50 µg/m³). Written Silica Exposure Control Plan required as part of the SSSP.
11.3 Toxic Metals (Lead, Cadmium, Mercury, Hexavalent Chromium): Expected during welding, torch cutting, or handling painted surfaces. Written Toxic Metals Exposure Control Plan required per 29 CFR 1910.
11.4 Hoisting and Rigging: Anticipated for rig erection, drill pipe handling, and casing placement. Subcontractor must comply with DOE-STD-1090-2020 and 29 CFR 1926 Subpart CC. Formal Lift Plans required for lifts > 5 tons, > 75% crane capacity, two-crane operations, or lifts near utilities/overhead power lines (maintain 20 ft minimum clearance for lines up to 350 kV).
11.5 Radiological Contamination: Not expected for this western basin scope. If radiological conditions are encountered or radioactive calibration sources are brought on site, compliance with the NNSS Radiation Protection Program (RPP) and Radiological Control Manual (RCM) is mandatory.

12. Site Coordination, Construction Facilities & Outage Requests

12.1 Drill Pad Boundaries:

12.1.2 TW-02 (BASE) pad footprint is restricted to 400 ft × 450 ft. The CONTRACTOR prepares, clears, and grades drill pads and excavates mud/cuttings pits.

12.1.2 TW-01 (Option 2) pad footprint is restricted to approximately 200 ft × 400 ft (exact dimensions TBD)

12.2 Subcontractor Facilities: Subcontractor shall furnish job trailers, generators with NEC/NESC grounding, portable restrooms, potable drinking water, and ice.

12.3 Trailer Permits: Submit NNSS Construction Office and Equipment Trailer Permit Application for trailers >120 sq ft at least 28 days prior to mobilization. Structures must meet IBC-2024 relocatable standards and pass Beneficial Occupancy Inspection (BOI).

12.4 Outage Requests: Provide minimum twelve (12) working days advance notice for any planned utility or hazardous energy lockout/tagout.

13.0 Subcontractor Deliverables (also reference Appendix A – Submittal Register)

13.1 All deliverables must be transmitted electronically using standard cover sheets (transmittal) to the Procurement Specialist and STR.

13.1.1 All field change requests and/or requests for deviation from the agreed work plan, design, or processes shall be submitted to the CONTRACTOR's appointed STR. The SUBCONTRACTOR shall follow the direction of the STR, providing the field change does not impact scope or funding. Changes involving scope or funding shall be forwarded to the Subcontract Administrator for disposition. The SUBCONTRACTOR shall not proceed with scope or funding changes unless authorized by the Subcontract Administrator.

13.2 Document requirements and review milestones are detailed below and within Appendix A – Submittal Register

13.3 All Preconstruction Deliverables must be submitted within 10 days of Project Award, unless noted otherwise.

13.4 Staffing Plan (See Appendix A – Submittal Register – Item 33)

13.4.1 Obtain and provide qualified and approved personnel as required within this Statement of Work (SOW)

13.4.2 See Section B-13 for Key Personnel Requirements.

13.4.3 Key Personnel Resumes must be formally submitted to CONTRACTOR through formal transmittal for review and approval.

13.4.3.1 Must be submitted within 10 days of Award.

13.4.4 Submit SUBCONTRACTOR Organizational Chart showing communication/reporting hierarchy (including tiered subcontractors, if any)

13.5 Site Specific Safety Plan (SSSP) (Appendix A – Submittal Register – Item 13)

13.5.1 See Exhibit E for SSSP requirements

13.5.1.1 Exhibit E defines specific requirements that differ from, or are in addition to, other federal, state, and local regulations that must be adhered to when working on sites governed by 10 CFR Part 851 and OSHA 3886-01R 2012, “Recommended Practices for Safety & Health Programs in Construction”

13.5.2 Includes the following subsections:

13.5.2.1 Safety Data Sheets (Appendix A – Item 14)

13.5.2.2 Safety and Personnel Report (Appendix A – Item 15)

13.5.2.3 Environmental, Safety, and Health Plan (Appendix A – Item 17)

13.5.2.4 Hazard Communication Program (Appendix A – Item 20)

13.5.2.5 Workplace Substance Abuse Program (Appendix A – Item 3)

13.5.2.6 Subcontract Hours, FRM-1253 (Appendix A – Item 4)

13.5.2.7 Monthly Total Recordable Incident Rate (TRIR) and Days Away (Appendix A – Item 5

13.5.2.8 Restricted or Transfer Case Rate (DART) (Appendix A – Item 6)

13.5.2.9 Injury/Illness Infraction Report, FRM-0018 (Appendix A – Item 7)

13.5.3 All generators and fuel tanks shall be protected by undamaged spill protection pad

13.5.4 Summarize proposed measures taken to prevent, contain and dispose of fluids that could cause environmental release of a hazardous substance

13.5.5 Formal submittal required (via formal transmittal) within 10 days of Award

13.6 Work Plan (Appendix A – Submittal Register – Item 34)

13.6.1 See Exhibit E for Work Plan requirements

13.6.2 Drawings, specifications, calculations, and all necessary technical details to describe the test drilling and geologic sampling approach

13.6.3 Drawings, specifications, calculations, and all necessary technical details to describe the test drilling and geologic sampling approach

13.6.3.1 Include OPTION 1 - TW02 Intermediate Casing and OPTION 3 – TW01 intermediate casing outlined within the Work Plan but clearly identified as OPTION 1 and OPTION 3 respectively

13.6.4 Verification of all dimensions, measurements, regulatory criteria, and equipment listed in the Work Plan

13.6.5 Detailed list of equipment, materials, and the key personnel proposed to execute the test drilling work

13.6.6 Key personnel include the SUBCONTRACTOR’s Project Managers, Drilling Superintendents/Foremen, Drill Rig Operator, and Safety Managers

13.6.7 Provide references to drilling industry standards as applicable

13.6.8 Describe the proposed methods for drilling, casing installation, geologic sample collection, plumbness measurement, sample retrieval, casing installation, quality control inspections, and waste management

13.6.9 Procedures for decommissioning dry wells in the event adequate groundwater is not encountered

or for converting non-productive wells to NDWR compliant monitoring wells

13.6.10 Formal Submittal required (via formal transmittal) within 10 days of Award

13.7 Site Utilization Plan *(Appendix A – Submittal Register – Item 36)*

- **13.7.1** Detailed site utilization plan showing:
  - **13.7.1.1** Drill Rig / Drilling Equipment Locations
  - **13.7.1.2** Mud/Spoils Pit Location
  - **13.7.1.3** Temporary Office Location
  - **13.7.1.4** Generator/Fuel Tank Locations
  - **13.7.1.5** Storage Containers
  - **13.7.1.6** Employee/Site Parking
  - **13.7.1.7** Administrative/Pedestrian Spaces
    - **13.7.1.7.1** Walkways
    - ***13.7.1.7.2*** Site Access/Egress *(including pathways for pedestrian/vehicular traffic)*
    - **13.7.1.7.3** Portajohn/Handwash Stations
    - **13.7.1.7.4** Roll Off Bin / Waste Bin Locations
    - **13.7.1.7.5** Hazardous Waste / Hydrocarbon Locations
  - **13.7.1.8** Smoking Areas
    - **13.7.1.8.1** Must be minimum 25 feet away from occupied space
  - **13.7.1.9** Fire Extinguisher Locations
  - **13.7.1.10** Temporary lighting location(s)
    - **13.7.1.10.1** Minimum 1 footcandle required along pedestrian pathways and work areas

13.8 Equipment List

- **13.8.1** Equipment information, including make, model, serial number, size of day tank, fuel tank information, and license plate (if applicable) (including photos of name plates)
- **13.8.2** Temporary Office Data Sheets (As soon as available but no later than 30 days after Award and MINIMUM 14 days prior to mobilization)
  - **13.8.2.1** Must be reviewed by CONTRACTOR for adherence to Fire & Life Safety Requirements
  - **13.8.2.2** Must be reviewed by Fire Marshall for NNSS Site Requirements
- **13.8.3** Temporary Generators/Motors (Required 14 days MINIMUM prior to mobilization)
  - **13.8.3.1** Equipment data
  - **13.8.3.2** Name Plates (when available/present)
  - **13.8.3.3** Size/motor displacement
  - **13.8.3.4** Day tank information (if present on equipment
  - **13.8.3.5** Duration of Site Presence (required for Air Permit Consideration
- **13.8.4** Must be submitted within 10 days of Award

13.9 Quality Control Plan *(Appendix A – Submittal Register – Item 35)*

- **13.9.1** Required within 10 days of Award

13.10 Pad Acceptance Statement

- **13.10.1** Confirmation of pad readiness prior to rig mobilization
- **13.10.2** Required MINIMUM 30 calendar days prior to mobilization

13.11 Rig Cleaning Attestation

- **13.11.1** Verification of pressure washing with phosphate-free detergent
- **13.11.2** Must be submitted within 1-day of washing

13.12 Draft Geophysical Logging Data

- **13.12.1** Preliminary borehole geophysical field files
- **13.12.2** Must be submitted within 24 hours of callout completion

13.13 Final Geophysical Logging Package

13.13.1 Includes all processed logs (LAS, PDF, TIFF Formats)

13.13.2 Must be submitted within 72 hours of callout completion

13.14 Well Summary Report

13.14.1 Comprehensive drilling, geologic, installation, and testing report

13.14.2 Must be submitted within 30 days of field work completion

13.15 Project Closeout Records

13.15.1 As-Builts, Daily Logs, Bit Tallies, Certified Payrolls

13.15.2 Must be submitted within 60 days of field work completion

13.16 Monthly Activity Status Report

13.16.1 Includes narrative of achievements, 30 day look ahead, cost tracking, and issues

13.16.2 Must be submitted by the 5th day of the calendar month

13.17 Daily Reports

13.17.1 Within format provided by the STR

13.17.2 Must include

- **13.17.2.1** Daily water usage
- **13.17.2.2** Daily drilling fluid usage
- **13.17.2.3** Daily drilling depth/rate
- **13.17.2.4** Personnel on site
- **13.17.2.5** Equipment on site
- **13.17.2.6** Weather conditions
- **13.17.2.7** Safety Observations
- **13.17.2.8** Material/equipment receipts and maintenance records
- **13.17.2.9** Notable issues/exceptions

13.17.3 Must be submitted within 24 hours after completion of work day (daily basis)

13.18 Project Management Plan

13.18.1 Plan shall describe:

- **13.18.1.1** Approach regarding management and allocation of resources to support the test drilling and pumping test work to be executed under this subcontract
- **13.18.1.2** Sections on project management, scheduling, financial management, personnel management, safety management, quality management
- **13.18.1.3** Process to respond to Requests for Information (RFI)
- **13.18.1.4** Process for providing support for urgent issue resolution
- **13.18.1.5** Process for preparing field change requests (FCR)
- **13.18.1.6** Process for providing calculations and schematic drawings
- **13.18.1.7** Process for performing field inspections
- **13.18.1.8** Process for completing geophysical logging and all other activities as required for timely completion of the test drilling and pumping test services
- **13.18.1.9** Shift rotation plans

13.19* Project Schedule *(Appendix A – Submittal Register – Item 1)

13.19.1 Preliminary Schedule

- **13.19.1.1** Submit baseline, resource loaded Gantt Chart Schedule within 10 days of award
- **13.19.1.2** Schedule must include NNSS 4/10 baseline for administrative/support tasks and 24/7 continuous operations for active drilling and pumping tests
- **13.19.1.3** Provide sufficient detail to identify the major identifiable elements of the project that may

constitute a reasonable basis for progress reporting and/or payment. The SUBCONTRACTOR's completion schedule must be consistent with the site access restrictions

13.19.1.4 Include mobilization, set-up, drilling, pumping tests, demobilization, and closeout

13.19.1.5 Activity durations must be shown in working days, with resource allocations separated by labor and materials

13.19.1.6 Activity durations shall be provided in working days.

13.19.1.6.1 The schedule (other than drilling/testing operations) shall be based on MSTS's 4-10 work schedule (Monday through Thursday) or another schedule approved by the CONTRACTOR.

13.19.1.6.2 Drilling and testing operations shall utilize a seven (7) day working schedule as required due to the type of work (24/7 operations).

13.19.1.6.3 The 4-10 working schedule closure days shall be as nonworking days on the SUBCONTRACTOR's schedule, unless otherwise approved or directed by the CONTRACTOR.

13.19.1.7 The SUBCONTRACTOR schedule shall include line-item resource loading as an attachment to the project schedule.

13.19.1.8 The schedule shall identify the dollar amounts for labor and materials separately for each activity shown on the schedule at a level of detail providing an accurate expenditure plan by month or other work breakdown consistent with request for progress requests.

13.19.2 Baseline Schedule and Updates

13.19.2.1 Provide weekly schedule updates within Gantt Chart format

13.19.2.2 Provide monthly schedule updates utilizing baseline schedule / P6 format

13.19.3 Milestone Target

13.19.3.1 Complete drilling, installation, and testing within 2.5 months of NTP per well option.

B-7 SUBCONTRACTOR ASSUMPTIONS

14.0 Subcontractor WILL

14.1 Obtain and use all licensed software required to complete scheduling, quality assurance/quality control, inspections, reporting, etc. requirements

14.2 Obtain and use all licensed software to successfully provide required drawings and other documents required for testing, as-built, and turnover requirements as stated within the scope of work below

14.3 Perform all logistics required to adequately transport employees to and from site during badging, mobilization, execution, testing, and demobilization

14.4 Provide all PPE and other safety equipment/material (i.e.. potable drinking water, cooling areas, and rest areas) required for safe execution of the test well(s)

14.5 Successfully complete test well development and completion of testing within 2.5 months of Notice to Proceed (NTP) for mobilization to site

14.6 Successful achievement of no safety incidents during mobilization, drilling, testing, and demobilization from the NNSS

14.6.1 Objective is no safety incidents including wildlife, heat, workplace injury, near misses, etc.

14.6.2 Safety is both an individual and team responsibility

14.7 Encourage jproactive, collaborative engagement with all team members, as a cohesive team throughout project including during pre-mobilization

14.8 Successfully completing all training, medical requirements, badging, and pre-mobilization deliverables prior to the required start of mobilization

14.9 Submit Pre-mobilization submittals within ten (10) days of Contract Award

14.10 Successfully complete and turnover of all project deliverables upon project completion, in a timely manner

14.11 Successfully deconflict logistics and operations with adjacent Site Operations in coordination with MSTS personnel

14.12 Furnish all necessary labor, technical and professional services, supervision, materials, tools, equipment, consumables, and payment of any applicable taxes to perform all operations necessary and required to perform the scope as directed by MSTS.

14.13 Unless otherwise approved, work in accordance with MSTS subcontract requirements, operating policies and procedures and shall be responsible for execution of the work in accordance with the quality standards and requirements specified for the assigned project and facility.

14.14 A source of water for drilling and well construction will be available to the SUBCONTRACTOR from an active supply well on NNSS. The SUBCONTRACTOR shall provide a clean water truck and all other required means of water conveyance from the supply well to the drilling site. The SUBCONTRACTOR shall furnish and maintain adequate bulk water storage tanks (if required) at the drill site for their use. These bulk water storage tanks shall be certified for potable water use. A local connection to a public drinking water system will not be available near the drill site.

14.14.1 SUBCONTRACTOR SHALL provide their employees and employees of tiered subcontractors with potable drinking water as required by the SSSP, OSHA, NNSS requirements, and as is required to maintain a healthy staff.

14.14.2 Unless otherwise noted, potable drinking water is available for purchase at the NNSS Cafeteria in Mercury (23-300).

14.15 Assume the test wells are to be completed similar to the configuration shown in the Test Well Construction Schematic drawings TW01 and TW02, Appendix B. All downhole drilling products, materials, and tooling shall be American National Standard Institute/National Sanitation Foundation 61 (ANSI/NSF 61) certified unless otherwise instructed by the CONTRACTOR.

14.16 Be responsible for all sub-tier subcontractors and all sub-tier subcontractor submittals. Sub-tier subcontractors include any vendor, subcontractor, or service provider that is working under a subcontract to the SUBCONTRACTOR.

14.17 Prior to SUBCONTRACTOR mobilization, the SUBCONTRACTOR shall provide a written statement to the CONTRACTOR's Subcontractor Technical Representative (STR) to indicate the cleared area is acceptable

14.18 SUBCONTRACTOR is responsible for all fuel (diesel, natural gas, etc.) to operate and maintain their equipment (including logistics of this fuel). CONTRACTOR will NOT be responsible for providing fuel to SUBCONTRACTOR.

14.18.1 SUBCONTRACTOR may consult with CONTRACTOR to obtain list of fuel vendors pre-approved for NNSS access.

14.19 SUBCONTRACTOR is responsible for employee housing and employee logistics

14.19.1 SUBCONTRACTOR may elect to utilize dormitory housing at the NNSS (Mercury) and must coordinate (through the STR) with NNSS Dormitory/Hospitality services.

14.19.2 All SUBCONTRACTOR employees must adhere to NNSS policies while residing within NNSS dormitory facilities.

14.20 SUBCONTRACTOR is responsible for providing cellular phone(s) services and internet services for their personnel to accomplish work.

14.20.1 Internet services MUST be hardwork/network from router to computer.

14.20.2 Wireless connections to internet (other than cellular service) are NOT allowed.

14.20.3 WiFi is NOT allowed.

14.20.4 SUBCONTRACTOR may coordinate with STR to submit for approval of Satellite/Cellular network access (ie. Starlink or AT&T cellular services)

14.20.5 All devices connecting to internet services must be hard connected (ie. laptops) to the network router/switch.

CONTRACTOR WILL:

14.21 NOT be responsible for non-drilling support time resulting from actions or delays caused by the SUBCONTRACTOR or TIERED SUBCONTRACTOR.

14.22 Be responsible for preparing the drill pad area by clearing and grading the area before SUBCONTRACTOR mobilization

14.23 NOT be responsible for fuel or water provision or logistics to the site other than for CONTRACTOR use and purposes.

B-8 PERSONNEL BADGING REQUIREMENTS

15.0 Badging

15.1 All on-site work will be coordinated with the STR in accordance with the SOW and site-specific training requirements.

15.2 The SUBCONTRACTOR shall wear a MSTS issued security badge identifying themselves.

15.3 A minimum of ten (10) working days advance notice is required for site badging. Appointments must be pre-coordinated and appointment times MUST be adhered to.

15.4 SUBCONTRACTOR employees shall be required to submit to vehicle searches and not personally carry or transport certain prohibited articles.

B-9 SITE ACCESS RESTRICTIONS

Site Access Schedule Restrictions

Site access for mobilization, well construction, pumping tests, and demobilization will be unrestricted, except for pre-schedule periods that will be imposed by the NNSS Operations Control Center (OCC). Table 2 and 3 include the site access restriction dates for TW01 and TW02 respectively. During the restriction periods, subcontractor and MSTS personnel will not be allowed access. The SUBCONTRACTOR's Work Plan shall account for these restrictive dates, and the SUBCONTRACTOR shall plan accordingly.

Table 2 Test Well 01 (OPTION 2) Site Access Restrictions

TW	Access Restriction Start	Access Restriction End	From Buckboard Mesa Rd West	From Buckboard Mesa Rd East
01	August 17, 2027*	November 20, 2027*	No Access	No Access
01	February 15, 2028*	May 16, 2028*	No Access	No Access

NOTE: TW01 access restrictions are fully dependent upon the TW01 (Option 2) Period of Performance which is TBD.

Table 3 Test Well 02 (BASE SCOPE) Site Access Restrictions

Test Well	Access Restriction Start	Access Restriction End	From Saddle Mountain Rd South	From Saddle Mountain Rd North
02	February 15, 2027	May 16, 2027	No access	No access
02	August 17, 2027	November 20, 2027	No access	No Access

B-10 ACCEPTANCE CRITERIA

Acceptance Criteria

- Work products and services provided shall meet all applicable MSTS procedures for control and review of work products and pertinent regulatory requirements, as required by this subcontract and incorporated provisions
- Further specific Acceptance Criteria applicable to this scope includes Demonstrated experience and capabilities to construct test wells with similar diameter and depth as shown on the Conceptual Test Well

Schematics, B-3 Drawings

- Attestation that equipment will be cleaned prior to mobilization to avoid cross contamination onto NNSS
- Demonstration of well plumbness and alignment testing experience and the ability to correct borehole straightness while drilling
- Evidence that the drilling method proposed satisfies the drilling and sampling requirements described in this SOW
- Description of geophysical logging methods and equipment, including experience statement and (if subcontracted) name and experience statement of geophysical logging subcontractor
- Capability to design the test well, filter pack, and well screen to produce maximum yield while maintaining laminar flow
- Ability to perform well development and on-site turbidity tests to meet 5 NTU turbidity requirement
- Installation and operation of test pumping equipment, including pump, motor, generator, discharge hose, water level meter, automatic water level recording device, and water meter

Qualifications, Licensing, Certifications

To determine whether the SUBCONTRACTOR is qualified to perform the scope of work as outlined, the SUBCONTRACTOR shall demonstrate the following qualifications in their proposal:

Experience - SUBCONTRACTOR shall have the following job experience

- SUBCONTRACTOR shall have minimum 10 years of experience in drilling and developing high yield municipal water supply wells and conducting pumping tests in deep fractured rock formations.
- SUBCONTRACTOR shall have experience with design and construction of gravel packed water supply wells in deep fractured rock formations.
- SUBCONTRACTOR shall clearly demonstrate an understanding of water supply test well drilling, geophysical surveys, and pumping tests and have the capability to self-perform or subcontract all scope described in this SOW.
- SUBCONTRACTOR shall have demonstrated experience at a government facility, working with multiple regulators and clients in an operational environment.
- SUBCONTRACTOR shall have experience in preparing evaluations and forecasts for well construction services to ensure service delivery.

Licenses – SUBCONTRACTOR shall have the following job-specific licenses:

Nevada Water Well Driller's License

- Certifications – SUBCONTRACTOR shall have the following job-specific certifications:

In addition to the above, the SUBCONTRACTOR shall provide qualified personnel throughout the period of performance of the Subcontract. SUBCONTRACTOR shall be responsible for ensuring its personnel meet and/or maintain current and valid training requirements, certifications and are fully capable to complete the duties described through the entirety of the Subcontract period of performance.

B-11 SITE CONDITIONS

Site Conditions and Known Hazards (Facility-specific)

Site facility specific conditions/requirements and known hazards are incorporated in this SOW.

3.4.1. Asbestos	
☒	It is **NOT** expected.
☐	It **IS** expected that asbestos-bearing materials will be encountered during the performance of this work. a. The SUBCONTRACTOR shall submit an Asbestos Abatement Plan for STR approval prior to start of work, which meets all the criteria of OSHA 29 CFR 1926.1101, "Asbestos." The Asbestos Abatement Plan shall identify the procedures that will be used to remove and dispose of all asbestos-containing materials that may be encountered during work performed under this Subcontract. These items include, but are not limited to, piping insulation, floor tiles, ceiling tiles, and boilers. b. Supervision of the asbestos abatement work shall be performed by a federal, state, or local accredited/licensed competent person (as defined by OSHA 29 CFR 1926.1101) employed by the SUBCONTRACTOR and who will be at the worksite(s) at all times. c. Installation of asbestos containing material (ACM) in newly constructed facilities is prohibited. For all new facilities, certify that no ACM was used for building construction.

3.4.2. Silica	
☐	It is **NOT** expected.
☒	It **IS** expected that silica-bearing materials will be encountered during the performance of this work and all activities that may potentially generate respirable silica. a. A SUBCONTRACTOR with employees potentially exposed to respirable crystalline silica (RCS) above 25 micrograms per cubic meter of air (25 ug/m3) as an 8-hour time-weighted average under any foreseeable conditions shall comply with the 29 CF 1910.1053, "Respirable Crystalline Silica," and/or 29 CFR 1926.1153, "Respirable Crystalline Silica." b. The SUBCONTRACTOR shall submit a Written Silica Exposure Control Plan (if applicable) to the CONTRACTOR for review and approval as part of the SSSP. *NOTE: The CONTRACTOR's RCS Occupational Exposure Limit is 25 ug/m^3 as opposed to OSHA PEL of 50 ug/m^3.*

3.4.3. Toxic Metals (Lead, Cadmium, Mercury)	
☒	It is **NOT** expected. However, since painted surfaces typically contain lead chromates, and many metals contain hexavalent chromium, the SUBCONTRACTOR is required to notify the STR prior to cutting, burning, welding or polishing of metal or painted surfaces.
☐	It **IS** expected. a. A SUBCONTRACTOR with employees working in toxic metals contaminated areas shall

	submit a Written Toxic Metals Exposure Control Plan in accordance to the appropriate section of 29 CFR 1910 to the STR for review and approval as part of the SSSP. b. All SUBCONTRACTOR employees working under the accepted Written Toxic Metals Exposure Control Plan shall have been trained in accordance with the plan. Training records shall be submitted to the STR prior to the start of work.

3.4.4. Hoisting and Rigging	
☐	It is **NOT** anticipated that Hoisting and Rigging will occur during performance of the work. However, if the SUBCONTRACTOR's chosen means and methods include hoisting and rigging activities then all applicable requirements shall apply.
☒	It **IS** anticipated that Hoisting and Rigging will occur during performance of this work. a. The SUBCONTRACTOR shall provide the resources necessary for inspection, certification, and maintenance of rigging and lifting equipment as well as monitor all lifts to ensure that regulatory lifting practices are followed by the MSTS Lifting SME. b. The SUBCONTRACTOR shall submit its 29 CFR 1926.1400, Subpart CC, "Cranes and Derricks in Construction" compliant program as part of the Environmental, Safety & Health (ES&H) program. c. The SUBCONTRACTOR shall designate a qualified supervisor to determine the methods and develop plans for rigging operations to ensure safe lifts. d. The SUBCONTRACTOR shall ensure all crane operations maintain minimum safe distances from all high voltage lines, as determined by the CONTRACTOR. Twenty feet is required for voltages up to 350 kV. At voltages greater than 350 kV, the distance shall increase as required. e. Cranes (Mobile) - The SUBCONTRACTOR shall provide the resources necessary for inspection, certification, and maintenance of rigging and lifting equipment and shall monitor all lifts to ensure that acceptable lifting practices are followed. f. Lift Plan requirements i. Lift plans are required to be submitted to the CONTRACTOR for concurrence. The SUBCONTRACTOR shall submit a detailed rigging plan with all applicable supporting calculations to the CONTRACTOR for review and acceptance prior to the lift. A Formal Lift Plan will be required for the following activities: • Excess of 5 tons • Lift classified as critical (exceeding 75% of crane capacity chart) • Any two-crane lift or any lift over operating or occupied facilities, process pipe racks or near power lines) • High value or long lead time item ii. The SUBCONTRACTOR shall designate a qualified supervisor to determine the methods and develop plans for rigging operations to ensure safe lifts. iii. The SUBCONTRACTOR is required to meet DOE Standard DOE-STD-1090-2020, "Hoisting and Rigging" for lift classification and lift plan requirements.

3.4.5. Radiological Contamination	
☒	It is **NOT** expected.
☐	It **IS** anticipated that work may be performed in radiological areas. a. The SUBCONTRACTOR shall abide by the requirements of the current version of the NNSS Radiation Protection Program (NNSS RPP) as implemented with the NNSS Radiological Control Manual (NNSS RCM). • The NNSS RPP can be downloaded from the following web address: https://www.osti.gov/servlets/purl/1435448 • The NNSS RCM can be downloaded from the following: https://www.osti.gov/servlets/purl/1895616 b. The SUBCONTRACTOR shall abide by the CONTRACTOR'S radiological postings. c. The SUBCONTRACTOR shall make arrangements with the CONTRACTOR'S Radiological Control Division to develop adequate controls, prescribe protective measures, and generate required Radiological Work Permit (RWP) necessary to demonstrate compliance with the NNSS RPP. d. The SUBCONTRACTOR shall comply with all RWPs approved by the CONTRACTOR controlling the work performed by the SUBCONTRACTOR. e. The SUBCONTRACTOR shall submit a list of all equipment and materials expected to be utilized in areas controlled for radiological purposes and shall additionally disclose all heavy equipment to be brought on NNSA/NFO-managed property to the CONTRACTOR'S STR (to be provided to the Radiological Control Division), prior to arrival on NNSA/NFO property. f. All SUBCONTRACTOR-owned/rented/leased equipment and vehicles brought onto NNSA/NFO property are subject to radiological survey at any time during the contract period. • All SUBCONTRACTOR-owned/rented/leased heavy equipment utilized for soil disturbing or building demolition activities are required to undergo baseline and re-entry radiological surveys upon arrival at NNSA/NFO property or prior to use at the work site, as directed by the CONTRACTOR'S Radiological Control Division • All SUBCONTRACTOR-owned/rented/leased equipment and vehicles are required to undergo radiological evaluation prior to removal from the work site and/or NNSA/NFO property • All SUBCONTRACTOR-owned/rented/leased equipment and vehicles brought onto NNSA/NFO property that cannot meet established radiological release requirements shall not be removed from NNSA/NFO property g. SUBCONTRACTOR shall require dosimeters, if used at the worksite, are exchanged by CONTRACTOR, as required, by the CONTRACTOR's Radiological Control Division. h. Upon completion of work, the SUBCONTRACTOR shall return the dosimeters to the CONTRACTOR. i. When required, the SUBCONTRACTOR shall ensure radiobioassay samples from their employees are submitted to the CONTRACTOR'S Radiological Control Division and/or RWP.

j. If the SUBCONTRACTOR is expecting to bring radioactive material/radioactive sources (including those contained within equipment) or radiation-generating devices (RGDs) onto NNSA/NFO property:

i. The SUBCONTRACTOR shall maintain radioactive material/radioactive sources per the CONTRACTOR'S direction

ii. The SUBCONTRACTOR shall submit a planned schedule of moves or advise the CONTRACTOR'S STR (to be provided to the Radiological Control Division), in writing, prior to moving any radioactive source to, around, or away from CONTRACTOR-managed property. Prior approval to move such radioactive sources onto or from CONTRACTOR-managed property must be received from the CONTRACTOR'S Radiological Control Division.

(1) The SUBCONTRACTOR shall notify the CONTRACTOR'S Radiological Control Division immediately after they bring radioactive material/radioactive sources onto CONTRACTOR-managed property so a pre-use radiological survey can be performed by the CONTRACTOR

(2) The SUBCONTRACTOR shall notify the CONTRACTOR'S STR prior to removing radioactive material/radioactive sources from CONTRACTOR-managed property so a post-use radiological survey can be performed by the CONTRACTOR

iii. The SUBCONTRACTOR shall submit a copy of the current applicable radioactive material license (Nuclear Regulatory Commission or applicable state reciprocity) or other approval to the CONTRACTOR'S STR (to be provided to the NNSS Radiological Control Division). The license shall indicate the SUBCONTRACTOR'S authority to possess and operate the radioactive source/radioactive material or RGD (copy of current License for Industrial Radiography per 10 CFR 34, "Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations" and include the procedures for operating the device.

(1) The SUBCONTRACTOR shall have adequate controls, protective measures, and work control documents/procedures/permits as required under their approved radioactive material license (Nuclear Regulatory Commission or applicable state reciprocity) or other approval for all operations associated with SUBCONTRACTOR-owned radioactive material/radioactive sources or RGDs.

(2) The SUBCONTRACTOR shall submit current leak test results, training records for RGD Operations, and source certificate/nominal activity sheets to the CONTRACTOR'S STR (to be provided to the Radiological Control Division) prior to the radioactive source arriving on NNSA/NFO-managed property.

(3) The SUBCONTRACTOR shall submit special form certificates, Department of Transportation shipping papers, and radioactive source container certifications, to the CONTRACTOR'S STR (to be provided to the Radiological Control Division) upon entry to NNSA/NFO-managed property.

(4) The SUBCONTRACTOR shall provide or make arrangements for transportation of radioactive source/radioactive materials in compliance with Department of Transportation regulations.

(5) The SUBCONTRACTOR shall have a worker radiation safety plan as specified in 10 CFR 39, "Licenses and Radiation Safety Requirements for Well Logging," including Operating and Emergency procedures and Incident Reporting procedures.

B-12 PERSONNEL TRAINING REQUIREMENTS

Training Requirements

The SUBCONTRACTOR and its personnel shall attend the following site-specific training in the course of this work scope. NOTE site access may be delayed until training is completed or renewed. The SUBCONTRACTOR shall contact the STR to coordinate scheduling of training. See Section B-6, 6.4 *Badging*.

B-6: Special Requirements - Section 2. MSTS Provided Training						
NO.	TRAINING	DURATION	FREQUENCY	TYPE	Reference	CONDITION / COMMENTS
1E00W752	CONTRACTORS Excavation Penetration Process (Briefing 1E00W752)	0.5 Hours	One-time	Briefing	Exhibit E	Only required for personnel performing or supervising excavation and penetration work activities
1E00W102	NNSS Site Access Safety Orientation (1E00W102)	0.5 Hours	One-time	Video	Exhibit E	For all subcontractors that will go onsite at the NNSS
1REMPAW1	Protective actions (WBT 1REMPAW1)	0.5 Hours	Every 365 days	WBT	Exhibit E	All subcontract personnel
1REM050000	Work Location Emergency Response Plan, Including Evacuation Alarms and Accountability (1REM050000)	3.0 Hours	One-time	TBD	Exhibit E	All subcontract personnel
1S00W115	Safeguards and Security Program Overview of Controlled Unclassified Information (1S00W115) If required.	1.0 Hours	Every 730 Days	Video	Exhibit E	All personnel if working beyond 30 calendar days from start of work (not cumulative – starts from first day)
1E00W585	General Employee Radiological Training (GERT) (1E00W585)	0.5 Hours	One-time	WBT	Exhibit E	All subcontract personnel

The SUBCONTRACTOR shall maintain training records for their personnel and ensure all required training is completed prior to work. Additionally, as soon as practical after award, the SUBCONTRACTOR shall submit a badge request for personnel required under the various releases for scheduling training and medical evaluation prior to crews being eligible for work on site.

B-13 SUBCONTRACTOR PERSONNEL QUALIFICATION REQUIREMENTS

Key Personnel Qualifications

The SUBCONTRACTOR shall submit a resume along with any documented applicable qualifications/certifications for approval prior to the SUBCONTRACTOR being authorized to proceed with work. The SUBCONTRACTOR shall submit any changes to the Key Personnel assignments to the CONTRACTOR's STR for approval. The SUBCONTRACTOR Key Personnel positions include the Project Manager, Quality Assurance/Quality Control Professional, On-site Safety Representative, Safety Manager, Site Superintendent, and Drilling Operator. The responsibilities and minimum qualifications for each position are described below.

- NOTE: Key Personnel resumes must be formally submitted by official transmittal within ten (10) days of contractor award for review and approval by the CONTRACTOR.
- The Project Organizational Chart must be formally submitted along with the key personnel resumes.
    - Organizational chart must show communications and reporting hierarchy (including tiered subcontractors, if any)

Project Manager

The Project Manager shall oversee all services and on-site construction operations, ensuring projects are completed on time, within budget, and adhere to safety regulations. The Project Manager shall manage lower-tier subcontractors, coordinate schedules, and enforce quality and safety standards.

Responsibilities

- Lead crews
- Ensure compliance with codes
- Communicate project status, schedule, and plans

Qualifications

- Bachelor's degree in engineering, construction management, geology, or related discipline
- Minimum five (5) years of experience in managing deep well construction and aquifer testing projects.
- Certifications in Occupational Safety and Health Administration (OSHA) and/or Project Management Professional (PMP) preferred
- Must have experience in a supervisory role on similar test drilling and well construction sites

Quality Assurance/Quality Control (QA/QC) Professional

Ensure that products or services meet established quality standards. The QA/QC Professional plays a crucial role in preventing and correcting errors. The QA/QC Professional inspects, tests, and ensures that products and services meet established quality standards and specifications. The QA/QC Professional shall work to identify defects, deviations from specifications, and other quality issues throughout the project, aiming to maintain consistency and adherence to quality assurance protocols.

Responsibilities

- Act as Point of Contact and represents the SUBCONTRACTOR in quality related matters
- Ensures SUBCONTRACTOR's Quality Assurance Plan (QAP) implementation
- Develops and maintains quality documents that are generated by the SUBCONTRACTOR and their lower-tier SUBCONTRACTORs (e.g., Inspection Reports, Test Plans, Test Procedures, Test Data Sheets, Measuring & Test Equipment (M&TE) Records, Geophysical logs, etc.)
- Perform regular independent oversight and ensure required testing and inspections are completed. The SUBCONTRACTOR's QA/QC representative (or MSTS approved designee) shall be present to verify that all required testing and inspection activities are performed in accordance with subcontract requirements, applicable codes, and industry standards.
- Ensure that deficiencies are documented in accordance with SUBCONTRACTOR's corrective action and nonconformance program
- Attend kick-off meetings, and as necessary, attend job walk-downs, progress meetings and safety meetings
- Work alongside the Field Work Supervisor (FWS) to ensure that the work is being accomplished in accordance with the subcontract requirements
- Identify and report errors
- Provide feedback to improve the final product or service

Qualifications

- High school diploma is the minimum requirement for entry-level positions. Preference is a post-secondary certificate, associate degree, or bachelor's degree in quality control or a related field. Further education, specialized training and QA/QC certification is also preferred.
- Minimum five (5) years of well construction experience overseeing inspection, testing, and quality documentation, QAQC/Quality Management Plan
- ASQ Certified Quality Inspector (CQI) preferred

On-Site Safety Representative (SSHO)

The SUBCONTRACTOR shall have a qualified Environmental Safety and Health (ES&H) professional representative that is acceptable to the CONTRACTOR and present at the worksite whenever SUBCONTRACTOR personnel are performing activity level work. The Safety Representative shall ensure a safe and healthy work environment by representing employee concerns, identifying hazards, and promoting safety protocols. The Safety Representative shall engage with site support staff and management to address workplace safety issues, conduct inspections, educate employees on safety practices, and ensure that all site and regulatory requirements are met.

Responsibilities

- On-site presence during all work activities, including 24 hours/day (if applicable), high risk, and critical activities
- May not engage in any activity level work outside of their role as SSHO Site Safety Representative
- Must not hold any other role or function as a substitute for another role while working in the capacity as Site Safety Representative
- With job planner assistance, develop and maintain the Job Hazard Analyses (JHA) throughout the project
- Develop separate JHAs when construction is phased or has dissimilar hazards
- Develop and maintain permits/plans that are generated by the SUBCONTRACTOR and their lower- tier SUBCONTRACTOR(s)
- Perform daily inspections with the FWS (it is expected that the ES&H Representative will perform this at the job site)
- Ensure that the FWS is documenting the daily inspections, including both positive observations and deficiencies along with corrective action(s)
- Attend pre-job meetings at least once/week

- Work alongside FWS to ensure that equipment used onsite is properly maintained
- Work alongside FWS to ensure that each employee's (and lower-tier employee's) training records and Electronic Job Task Analysis (EJTA) are approved prior to performing work and maintained current throughout the project
- Work alongside FWS to ensure that products/chemicals (provided by the SUBCONTRACTOR and lower-tier SUBCONTRACTORS) are submitted and approved prior to use
- Attend kick-off meetings and progress meetings
- Attend job walk-down after award of subcontract with FWS, Construction Manager (CM) and MSTS Safety Professional
- Participate in inspections with FWS, CM, and MSTS Safety Professional
- Available in case of an event and perform event investigations
- Participate in MSTS investigations and fact-finding meetings
- Work alongside FWS to ensure that the work is being accomplished following MSTS Safety and Health procedures
- Work alongside FWS to help resolve employee concerns

NOTE: The safety professional's oversight frequency shall increase if the SUBCONTRACTOR or MSTS determines that more rigorous oversight is required.

Qualifications

- Degree in Occupational Safety, or hold the designation of a Certified Safety Professional, or hold the designation of an Associate Safety Professional with a minimum of 1-year documented safety experience, or Occupational Health and Safety Technician, or Construction Safety and Health Technician certification in addition to 3 years of experience in the field providing safety duties, or documented 5 years full time safety experience (100% safety work). List of projects and description of duties where person was a full-time safety professional.

Safety Manager

The SUBCONTRACTOR shall have a qualified Safety Manager who is directly responsible for developing the Site Specific Safety Plan (SSSP) for the project in addition to participating in review and approval of all activity level work control documents (ALWCDs) submitted as part of the SUBCONTRACTORs preconstruction deliverables.

Responsibilities

- Developing, implementing, and maintaining safety programs to ensure a safe, healthy, and compliant work environment for all employees.
    - This includes identifying hazards, conducting safety audits, investigating incidents, and providing recommendations for improvement. The goal is to create a workplace that meets legal and contractual expectations and actively supports occupational health and safety.

Qualifications

- Four-year degree in Occupational Safety plus 3 years of full-time safety experience, CSP plus 3 years of full-time safety experience, ASP plus 4 years of full-time safety experience, OHST/CHST plus 6 years of safety experience, or documented 8 years of full-time dedicated safety experience

Site Superintendent

The SUBCONTRACTOR shall provide a qualified Site Superintendent(s) on site whenever drilling work is being performed. The SUBCONTRACTOR shall provide the resumes of at least two Site Superintendents (minimum) to satisfy the anticipated 24/7 rig operation schedule on this project.

Responsibilities

- Must be on site while any work is being performed by SUBCONTRACTOR personnel (including tiered subcontractors)
- The Site Superintendent shall directly manage all drilling and test well construction operations on site.

Qualifications

- Minimum 10 years of drilling supervision experience, including experience on projects drilling and constructing municipal test wells in fractured rock formations of similar scope as described within this Statement of Work (SOW)
- The Site Superintendent shall possess an active Nevada Drillers License as required under Nevada Administration Code 534.

Drilling Operator

The SUBCONTRACTOR shall provide a qualified Drilling Operator(s) on site whenever drilling work is being performed. The SUBCONTRACTOR shall provide the resumes of at least two Drilling Operators (minimum) to satisfy the anticipated 24/7 rig operation schedule on this project.

Responsibilities

- Shall be physically on site while all drilling is taking place and/or the drill rig is operating
- Must not have any other role while actively acting as the drilling operator

Qualifications

- Must possess an active Nevada Drillers License
- Minimum 5 years of experience with drilling deep fractured rock test wells, with at least one project within the previous 5 years that required test well drilling to a similar depth and diameter as described in the SOW.

B-14 TECHNICAL SPECIFICATIONS AND DRAWINGS

The SUBCONTRACTOR shall perform work in accordance with the national codes, specifications, drawings, exhibits, and other documents, which by reference are made as part of the SOW.

Inspection of the work required by governmental agencies shall be arranged by the STR. The SUBCONTRACTOR shall request inspections through the STR, after the work is ready for inspection. In-process oversite of the SUBCONTRACTOR'S in-process work shall be performed by the STR's construction project support personnel as appropriate.

Specifications

No external engineering specifications are referenced as part of this Statement of Work. Technical provisions are incorporated directly within Section B-3 of this Statement of Work (SOW)

Drawings

DRAWING NUMBER	TITLE	REV	PAGES
TW01 (OPTION 2)	*10" Test Well 01 Conceptual Schematic*	*0*	*1*
TW02 (BASE)	*10" Test Well 02 Conceptual Schematic*	*0*	*1*

B-15 CLEARANCE REQUIREMENTS

The following access authorization or clearance requirements are required.

1) Check all that apply:

- ☒ No security clearance; unclassified work
- ☐ DOE L
- ☐ DOE Q
- ☐ HSPD-12 PIV Credential

2) If applicable, add any or all parts of the following statement security qualifications:

- ☐ The SUBCONTRACTOR shall have the ability to obtain a U.S. Department of Energy (DOE) facility security clearance and have personnel capable of obtaining a Q-type or L-type security clearance.
- ☐ Q- or L-type security clearance is required for all SUBCONTRACTOR personnel having access to classified information or special nuclear material when performing such work.
- ☐ A corresponding level of security clearance from another federal agency may be applicable if approved by the MSTS and DOE.
- ☒ N/A

B-16 USE OF GOVERNMENT ASSETS

Use of Government Vehicles	
☒	There is **NO** anticipated need for any SUBCONTRACTOR employees to use a Government-furnished vehicle in the performance of this SOW. The SUBCONTRACTOR's employees, therefore, are specifically prohibited from driving any Government-furnished vehicles under the performance of this SOW unless this SOW is formally so modified by the parties and the employee(s) will present a valid driver's license to the STR for review.
☐	One or more SUBCONTRACTOR employees will have access to Government-furnished vehicles while performing this SOW.

Government Property	
☒	Government Property **NOT** anticipated to be furnished to or acquired by the SUBCONTRACTOR under this SOW.
☐	Pursuant to FAR 52.245.1 – Government Property, the following Government-owned property will be furnished to the SUBCONTRACTOR. The SUBCONTRACTOR shall be responsible for managing the Government-Furnished Property (GFP) below and/or Contractor-Acquired Property (CAP) as required in accordance with FAR 52.245-1. A list of the property to be furnished to the SUBCONTRACTOR can be found in Appendix Choose an item, along with any special technical and/or handling instructions.

B-17 PERMITTING / PERMITS

Except for permits furnished by MSTS the SUBCONTRACTOR shall, without additional expense to MSTS, be responsible for obtaining all necessary licenses and permits.

- Including drilling permits (coordinate with NNSS Environmental Compliance)

The MSTS will, without cost to the SUBCONTRACTOR, furnish the permits listed below. All such MSTS-furnished permits are available for examination at the project office of MSTS during regular business hours.

- N/A

The SUBCONTRACTOR shall also be responsible and liable for all materials delivered and Work performed until completion and acceptance of the entire Work, except for any completed unit of Work which may have been accepted under the SUBCONTRACTOR.

B-18 QUALITY ASSURANCE (QA)

The work as described has been identified to be.	
☐	**SAFETY CLASS/SAFETY SIGNIFICANT SERVICES AND/OR COMMODITIES (NUCLEAR/RADIOLOGICAL)** This PO is related to items or services used in support of the nuclear and/or radiological mission(s) of the Nevada National Security Site, therefore: The SUBCONTRACTOR shall implement and maintain a Quality Assurance (QA) program in accordance with at least one the following quality assurance criteria and requirements: • ASME NQA-1 (2015) quality assurance requirements for nuclear facility applications • ASME NQA-1 (2008 with 2009 addenda) quality assurance requirements for nuclear facility applications • Equivalent program authorized in writing by the contractor's quality assurance organization In addition, the SUBCONTRACTOR shall be responsible for: Price Anderson Amendments Act (PAAA) The item or service identified in the purchase order agreement is being procured by a contractor to the Department of Energy (DOE)/National Nuclear Security Administration (NNSA). This item or service is intended to be used in the performance of activities that (1) prevent or mitigate radiological or harm to the worker, the public or the environment or (2) provide a healthful and safe workplace for DOE/NNSA contractor personnel. Therefore, the SUBCONTRACTOR is responsible for assuring that the items or services provided under this purchase agreement meet the stated requirements. **SUSPECT/COUNTERFEIT ITEMS** The SUBCONTRACTOR will take positive measures to ensure that only new, unused equipment/material from acceptable sources is provided under this subcontract. Notwithstanding any other provisions of this subcontract, should any suspect/counterfeit items or components be found within or on this equipment during CONTRACTOR receipt inspection, SUBCONTRACTOR shall, at its expense, promptly replace such items or components.
☒	**GENERAL SERVICES AND/OR COMMODITIES** This PO is for items or services that support the mission(s) of the Nevada National Security Site, therefore: **SUSPECT/COUNTERFEIT ITEMS REQUIREMENTS**: The SUBCONTRACTOR will take positive measures to ensure that only new, unused equipment/material

	from acceptable sources is provided under this subcontract. Notwithstanding any other provisions of this subcontract, should any suspect/counterfeit items or components be found within or on this equipment during CONTRACTOR receipt inspection, SUBCONTRACTOR shall, at its expense, promptly replace such items or components. These requirements shall be flowed down to all levels of SUBCONTRACTORS as it pertains to this procurement activity.

B-19 LOWER-TIER SUBCONTRACTS

Lower-Tier Subcontracts

The SUBCONTRACTOR shall ensure that LOWER-TIER SUBCONTRACTORS performing elements of the Subcontracted Scope of Work at sites controlled/managed by the CONTRACTOR or NNSA adhere to the SUBCONTRACTOR'S Site-Specific Safety Plan (SSSP). The SUBCONTRACTOR is responsible for ensuring that its LOWER-TIER SUBCONTRACTORS are included in the SUBCONTRACTOR'S SSSP and that they comply with all the requirements of this Subcontract.

If, after award, the SUBCONTRACTOR proposes to use any new LOWER-TIER SUBCONTRACTORS not listed in initial subcontract, the SUBCONTRACTOR shall notify the MSTS's Procurement Specialist at least 10 business days before the proposed start date of the new LOWER-TIER SUBCONTRACTOR. The SUBCONTRACTOR will submit any required LOWER-TIER SUBCONTRACTOR'S, forms and documentation including "Safety and Health History" for CONTRACTOR review and acceptance. LOWER-TIER SUBCONTRACTORS shall not perform any work prior to the CONTRACTOR'S approval in writing provided by the Procurement Specialist.

B-20 ENVIRONMENTALLY PREFERABLE PRODUCTS

MSTS is required by the U.S. Department of Energy to purchase Environmentally Preferable Products (EPP) (also known as green or sustainable purchasing) and are also required to flow those procurement requirements to their SUBCONTRACTOR. When designing materials and/or supplying materials to be used onsite as part of a subcontract SOW, those materials must meet these same requirements.

The following is a list of EPP types that must be used if they are available:

- **Products with Recycled Content.** MSTS supports efforts that reduce or eliminate environmental hazards, conserve environmental resources, minimize life-cycle cost and liabilities. Towards the end, the acquisition cycle is viewed as an important key in understanding what is brought onto the Site as well as identifying what can be reused/recycled. Focus is directed on recycled-content, biobased-content, ozone-depleting substances, and other environmental impacts. Specific additional clauses are included in this solicitation that address potential requirements and preferences based on the nature of the item being considered for purchase.
- **Water Efficient Plumbing Products.** When purchasing commercially available, off-the-shelf water consuming products, products must meet EPA's Water Sense standards (http://www.epa.gov/watersense).
- **Non-Toxic or Less Toxic Alternatives**
- **Green Certified Products.** (e.g., Design for Environment, Green Seal)
- **Bio-Based Products.** MSTS will give preference to acquiring Department of Agriculture designated biobased products. For more information to this program, see www.biopreferred.gov.

- **Energy Efficient Products**
  - EPA Energy Star® When purchasing commercially available, off-the-shelf energy-consuming products, products must be Energy Star rated (www.energystar.gov)
  - Federal Energy Management Program designated products When purchasing commercially available, off-the-shelf energy-consuming products, products must use no more than one watt of standby power as defined and measured by International Electrotechnical Commission (IEC) code 62301 or otherwise met FEMP specifications for low standby power consumption. If FEMP has not specified a standby power level for a product category, the item shall be the lowest standby power consumption available.
- **Energy Efficient Electronics**

  When purchasing the following products, EPEAT ratings will apply:
  - Desktop and Notebook Computers – must meet the EPEAT silver rating or higher
  - Displays, Monitors, Integrated Desktop Computers, Workstation Desktops, Thin Client, Workstation Notebooks, and/or Tablet Notebooks – must meet the EPEAT silver rating or higher
  - Fax Machines, Multifunction Devices, and Printers – must meet the EPEAT bronze rating or higher
  - Copiers and Digital Duplicators – must meet the EPEAT silver rating or higher
- **Reuse of Leased IT Electronic Equipment.** In accordance with DOE Order 436.1, Departmental Sustainability, MSTS is striving to reduce or eliminate environmental hazards, conserve environmental resources, minimize life-cycle cost and maximize operational sustainability through the incorporation of electronics stewardship practices thereby minimizing the economic and environmental impacts of managing toxic by-products and hazardous wastes generated in the conduct of site activities. Therefore, MSTS requires that at the end of the lease period, the equipment is to be reused, refurbished, donated, or recycled using environmentally sound management practices.

B-21 MEETINGS

After subcontract award, a Project Kickoff Meeting will be scheduled. This Kickoff Meeting may be a virtual meeting utilizing telephonic or internet technology (Microsoft Teams) or an in-person conference to be held either at the NNSS or at the NNSS North Las Vegas Campus. The time, date, and agenda for the meeting will be provided to the SUBCONTRACTOR by MSTS.

The SUBCONTRACTOR shall interface with various MSTS (and other) organizations through MSTS' Procurement Specialist (or STR for in-scope work), as required, or at points and frequency determined by the Procurement Specialist.

The CONTRACTOR will issue meeting notices and prepare an agenda and minutes for each meeting addressed in this Section. When applicable, minutes will identify action items, assigned responsibility point of contact, and due dates. The purpose of the meetings is the exchange of work-related information. The SUBCONTRACTOR is required to attend all meetings, with at least one SUBCONTRACTOR delegate having delegated authority to make decisions that commit the SUBCONTRACTOR to the decisions made during the meetings.

SECTION B-10 MEETINGS					
NO.	MEETING (TITLE)	MEETING DESCRIPTION / PURPOSE	FREQUENCY	TYPICAL DURATION	ADDITIONAL INFORMATION
001	Subcontract Kick-off Meeting	After Master Agreement award, a Subcontract Kickoff Meeting will be held. The time, date, and agenda for the meeting will be provided to the SUBCONTRACTOR by MSTS. This typically occurs within 2-4 weeks of contract award.	Once	~1-2 hours	After issuance/acceptance of the subcontract, MSTS will conduct a meeting with the SUBCONTRACTOR and major lower-tier SUBCONTRACTORS. The meeting's purpose is to provide the SUBCONTRACTOR with additional information as required to accomplish the scope specified in this SOW, and to develop lines of communications, and a working relationship. This meeting will focus on a discussion of the work scope and goals and roles and responsibilities of each participant. Pertinent documents will be reviewed and discussed. Typically in-person with virtual option.
002	Weekly Status (IPT) Meeting	Meeting tor provide status on project deliverables, issues, actions, and communications. May take the form of a tier meeting, project meeting, design meeting, construction meeting, or other regularly scheduled meeting with the focus of status updates.	Weekly	~30-60 Minutes	Project status meetings will be held weekly either by Microsoft Teams or in person to review the progress, to provide weekly schedule status, and exchange work-related information, including but not limited to design and scope changes, progress, coordination with functional utility providers, and scheduling issues.
003	Site Labor Conference	Meeting between MSTS, the appropriate unio(s), and the SUBCONTRACTOR held before the work	Once	~1-2 hours	Typically in-person with virtual option.

SECTION B-10 MEETINGS					
NO.	MEETING (TITLE)	MEETING DESCRIPTION / PURPOSE	FREQUENCY	TYPICAL DURATION	ADDITIONAL INFORMATION
		commences at the NNSS within the applicable labor agreements.			
004	Plan-of-the-Day (POD) Meetings	At MSTS discretion, daily plan of the day meetings may be held with Facility Managers to coordinate daily tasks between adjacent Projects or teams.	Daily	<30 minutes	Where a Project is isolated from adjacent teams and projects, this meeting may coincide with either internal MSTS meetings or with the Weekly IPT Status Meetings.
005	Pre-Job Briefings	Briefing performed at the beginning of fieldwork	Daily	<30 minutes	Performed at job site. Also known as safety briefing or tailgate briefing.
006	Incident Reviews	Meeting performed post incident or accident	Based on occurrence	~1-2 hours	As quickly as possible and no later than within 2 weeks of the event

B-22 SUBMITTALS

Appendix A, *Submittal Register*, identifies submittals/deliverables and due date during the execution of this subcontract. The recipient is also listed.

B-23 APPENDIX LISTING

APPENDIX NUMBER	*TITLE*	*REV*	*PAGES*
Appendix A	Submittal Register	*NA*	*4*
Appendix B	Test Well Construction Schematics (TW02, TW01)	*NA*	*2*
Appendix C	GIS Maps and Drill Pads	*NA*	*3*

MSTS
MISSION SUPPORT AND TEST SERVICES LLC

B-24 APPENDIX A – SUBMITTAL REGISTER

Section A: Purchase Order / Subcontract Information			
Subcontractor Name:	TBD	SOW Title:	**Test Well Drilling and Pumping Test**
Purchase Order & Release Number:	TBD	Requisition #:	REQ-0023422

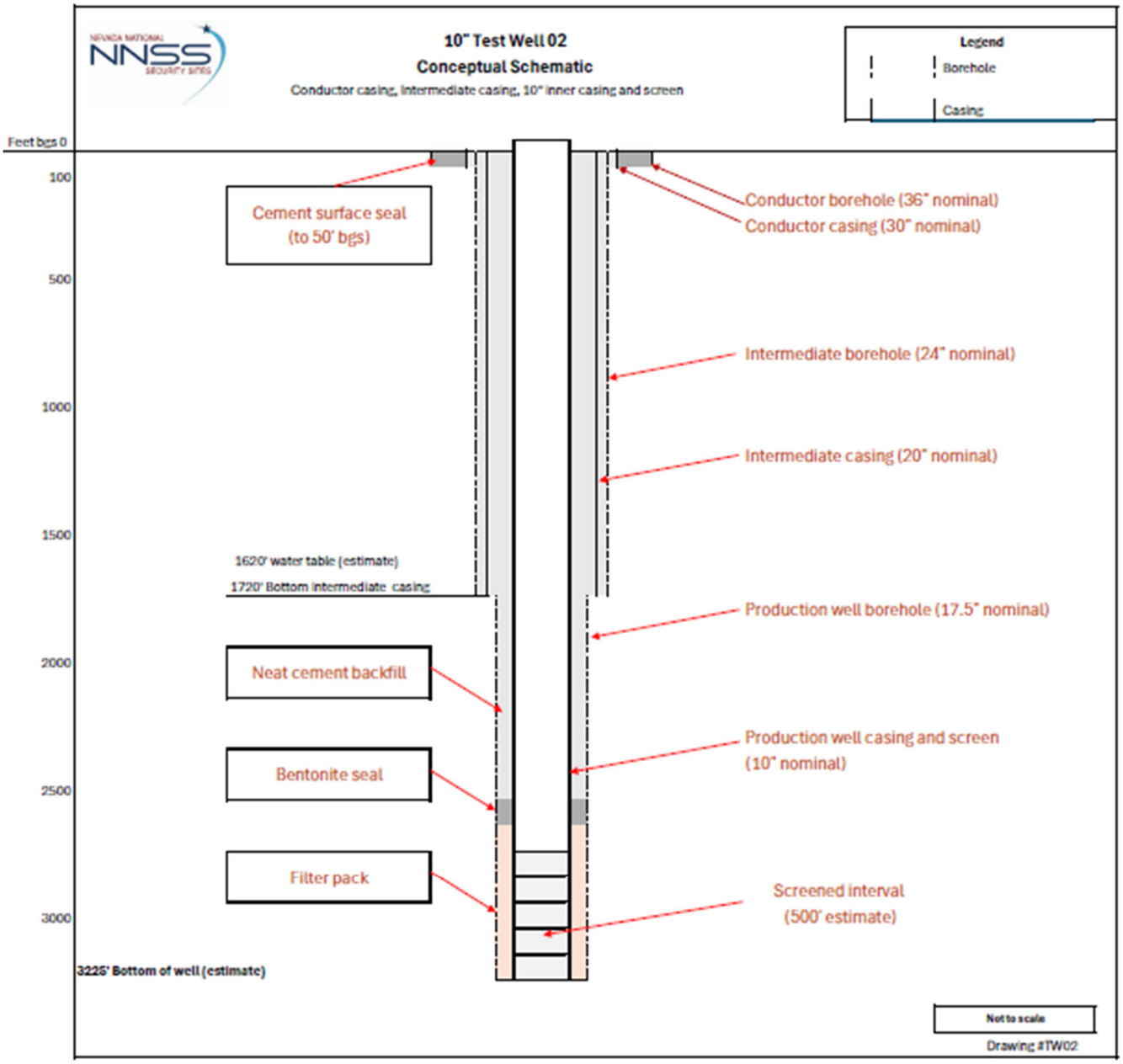
Section B: Submittal Delivery Requirement

Submittals shall be electronically, unless otherwise noted, to: Procurement Specialist; Julaocj@nv.doe.gov and Subcontract Technical Representative; NagyJJ@nv.doe.gov
Insert any special notes. DO NOT INCLUDE internal distribution notes.

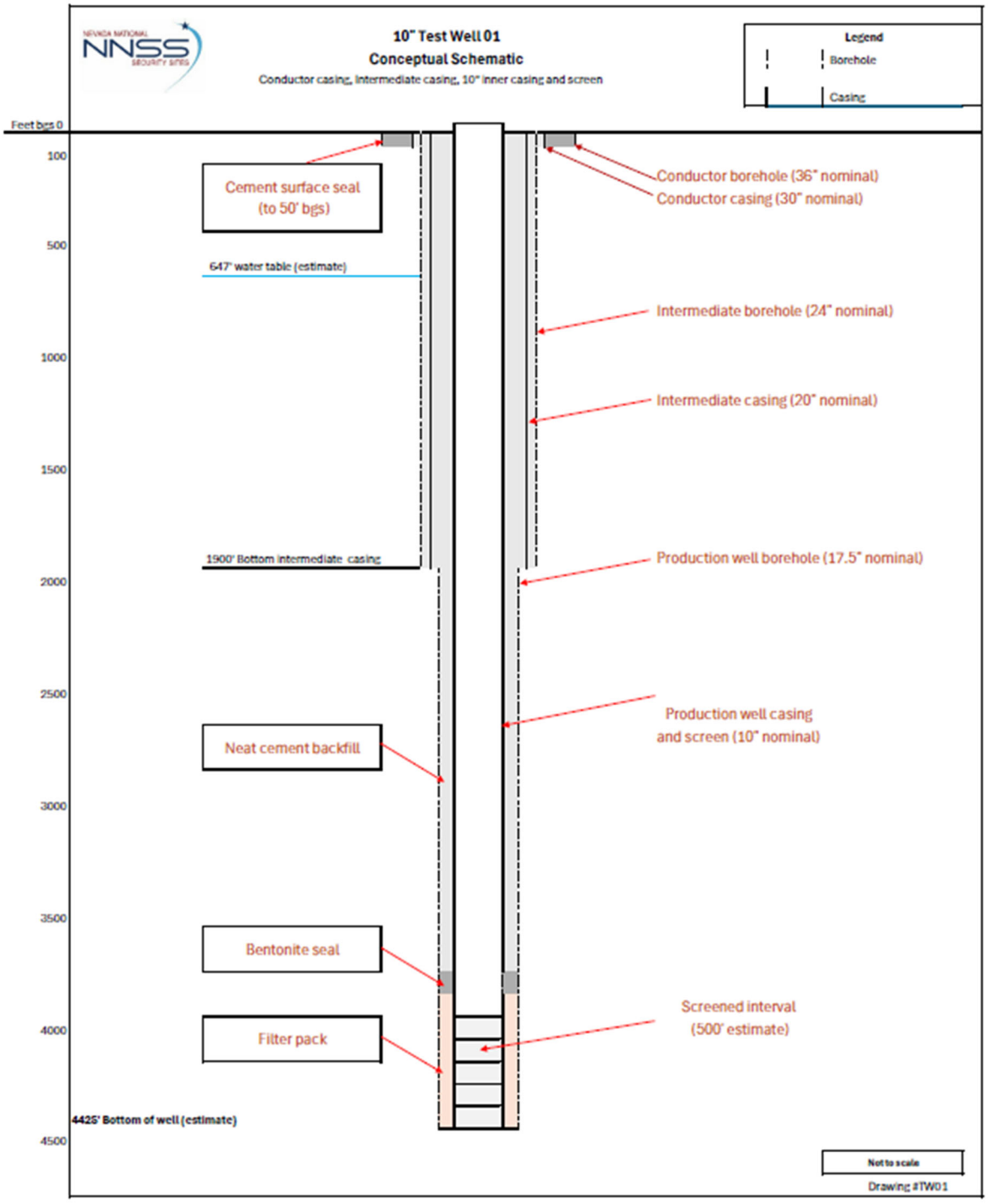
Section C: Submittal Requirements Details

NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
1	Subcontract Schedule	Exhibit B	No later than 10 calendar days from date of award, update insert SOW required frequency	Procurement Specialist, STR	Prior to the start of work
2	SF-1413: Statement and Acknowledgement	Exhibit B	No later than 10 calendar days from date of award	Procurement Specialist, STR	
3	Workplace Substance Abuse Program to include Evidence of Compliance with SUBCONTRACTOR's Workplace Substance Abuse Program	Exhibit E	Annually, based on date of CONTRACTOR acceptance	Procurement Specialist	Provide any changes to the Program and evidence for that year's compliance in accordance with Title 10 Code of Federal Regulations Part 707
4	Subcontract Hours, FRM-1253	Exhibit E	On or prior to the 28th of the month	STR	
5	Monthly Total Recordable Incident Rate (TRIR) and Days Away,	Exhibit E	On or prior to the 28th of the month	STR, Safety Professional	
6	Restricted or Transfer Case Rate (DART)	Exhibit E	Annually, based on date of CONTRACTOR acceptance	Safety Professional	Safety receives this from the sub to incorporate into their reporting requirements
7	Injury/Illness Infraction Report, FRM-0018	Exhibit E	Immediately	STR, Safety Professional	The SUBCONTRACTOR is required to report all job-related injuries and illnesses, regardless of severity,
~~8~~	~~NNSS Construction Office and Equipment Trailer Permit Application~~	~~Exhibit B~~	~~28 days prior to being on site~~	~~STR~~	~~NOT REQUIRED, SEE SOW~~
9	Meeting Minutes	Exhibit B	Weekly/Monthly as required by SOW	~~Procurement Specialist~~, STR	None
10	NNSS Construction Office and Equipment Trailer Permit Application for Each Trailer over 120sf	Exhibit B	At least 28 days before the trailer is planned to be on site	TBD	MSTS Building AHJ needs to review and approve with the Fire Marshall.
11	Drawings, Calculations and Modeling	Exhibit B	As stated in B-3 Description of Work	Project Manager, STR, & Design Engineering	None
12	Construction Schedules	Exhibit B	As stated in B-3 9.16 Description of Work	Procurement Specialist, STR	None
13	Subcontractor Site-specific Safety Plan (SSSP)	Exhibit E	30 days prior to the start of fieldwork	~~Procurement Specialist~~, STR, Safety Professional, Industrial Hygienist	None
14	Safety Data Sheets (SDS)	Exhibit E	NLT 10 calendar days from award or prior to start of work	~~Procurement Specialist,~~ STR, Safety Professional, Industrial Hygienist	None
15	Safety and Personnel Report	Exhibit E	Monthly, NLT 28th day of the new month	~~Procurement Specialist,~~ STR, Safety Professional, Industrial Hygienist	None
16	Quality Control / Assurance Program	Exhibit A Exhibit D	NLT 10 calendar days from award or prior to start of work	~~Procurement Specialist,~~ STR	None
17	Environmental, Safety, and Health Plan	Exhibit E	NLT 10 calendar days from award/Prior to start of work	~~Procurement Specialist,~~ STR, Safety Professional, Industrial Hygienist	None
18	Individual Subcontract Report	Subcontract	Semi-annually	www.esrs.gov	None
19	Summary Subcontract Report	Subcontract	Annually	www.esrs.gov	None
20	Hazard Communication Program	Exhibit E	No later than 10 calendar days from Notice to Proceed prior to start of Work	ADM	None
21	Collective Bargaining Agreement / Letter of Assent	Subcontract	No later than 10 calendar days from award	ADM	None
22	Certified Payrolls	Subcontract	Weekly by the Subcontractor and all on-site Lower Tier Subcontractors	Procurement Specialist, STR, MSTSSubCertifiedPR@nv.doe.gov	None
23	Schedule of Values (SOV)	Exhibit A	No later than 10 calendar days from date of award	STR / PS/ PCS	None
24	Integrated Safeguards & Security Plan	Subcontract	NLT 10 calendar days from award/Prior to start of work	ADM	None
25	Facility Security Officer Certification	Subcontract	NLT 14 calendar days from award/Prior to start of work	ADM	None
26	Timesheets/Field Tickets Progress Report/Employee Count	Subcontract	Monthly, NLT 5th day of new month	ADM	None
27	Organizational Conflict of Interest (OCI) Certification	Subcontract	With proposal and prior to addition of any lower-tier SUBCONTRACTORs	ADM	None
28	Workplace Substance Abuse Program to include Evidence of Compliance with SUBCONTRACTOR's Workplace Substance Abuse Program	Subcontract	With Proposal and annually, based on date of CONTRACTOR acceptance	ADM	None
29	Subcontract Release Statement – FRM-2206	Exhibit C Subcontract	Following completion of work prior to final payment for each Task Order	ADM	None
30	SUBCONTRACTOR's Authorized Representative	Exhibit C	Prior to the start of work	ADM	None
31	General Drill Pad Layout (Drawing)	Exhibit B	Part of proposal	~~PS~~, STR	Specify size of drill pad, drilling equipment, and excavated pits
32	Project Management Plan (PMP)	Exhibit B	NLT 30 calendar days from date of award	~~PS~~, STR	
33	Staffing Plan	Exhibit B	NLT 30 calendar days from date of award	~~PS~~, STR	
34	Work Plan	Exhibit B	NLT 30 calendar days from date of award	~~PS~~, STR	
35	Quality Assurance/Control Plan (QAP)	Exhibit B	NLT 10 calendar days from date of award	~~PS~~, STR	
36	Site Utilization Plan (SUP)	Exhibit B	NLT 30 calendar days from date of award	~~PS~~, STR	
37	Operational Fire, Life, and Safety Plan	Exhibit E	NLT 10 calendar days from date of award	~~PS~~, STR	
38	Environmental Management Plan	Exhibit E	NLT 10 calendar days from date of award	~~PS~~, STR	
39	Well Installation Plan	Exhibit B	Within 2 days after completion of drilling to total depth	~~PS~~, STR	
40	Nevada Water Driller's License	Exhibit B	NLT 10 calendar days from date of award	~~PS~~, STR	
41	Geophysical Logging Plan	Exhibit B	Within 2 days after completion of drilling to total depth	~~PS~~, STR	

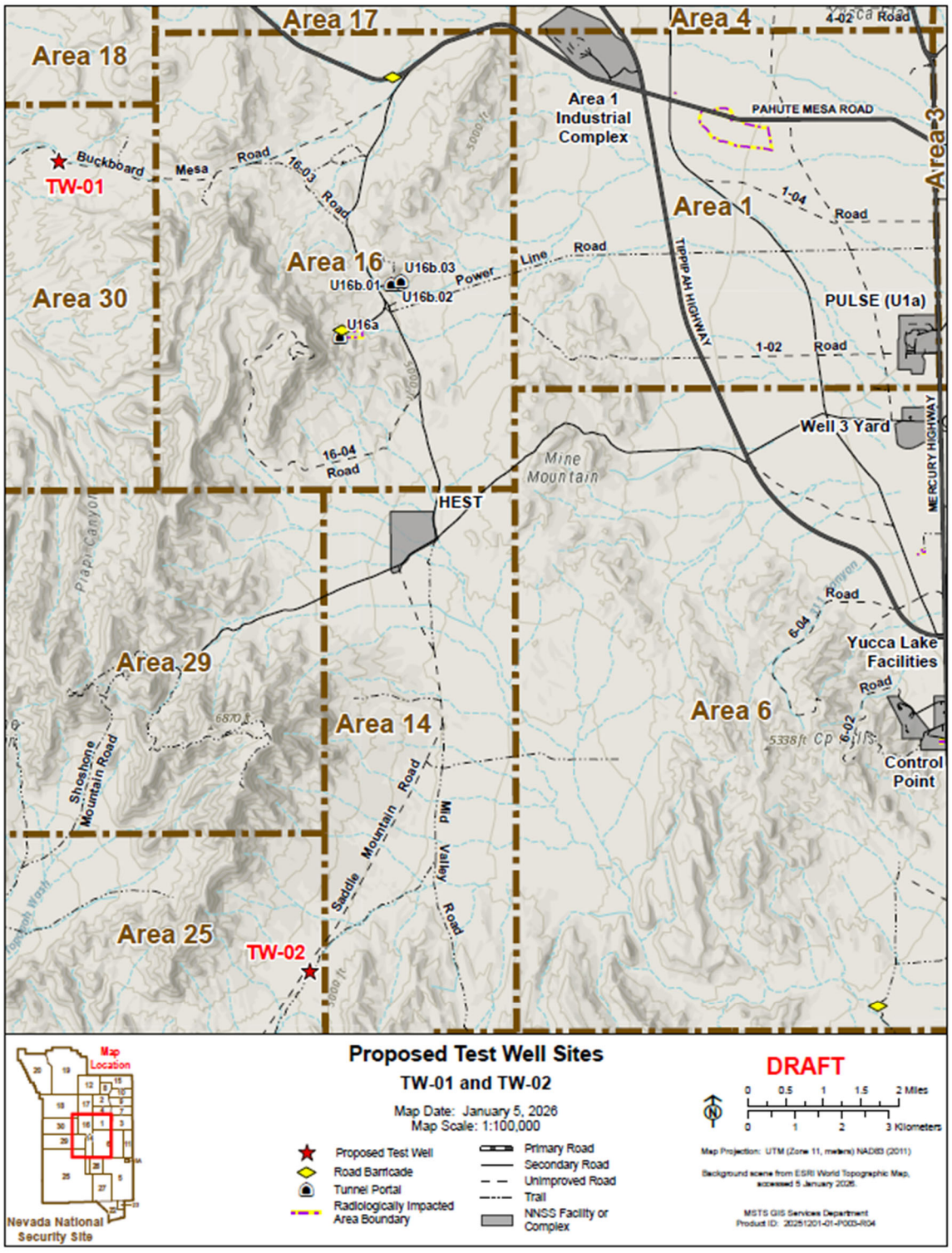
B-25 APPENDIX B - WELL SCHEMATICS – TW02 (BASE)



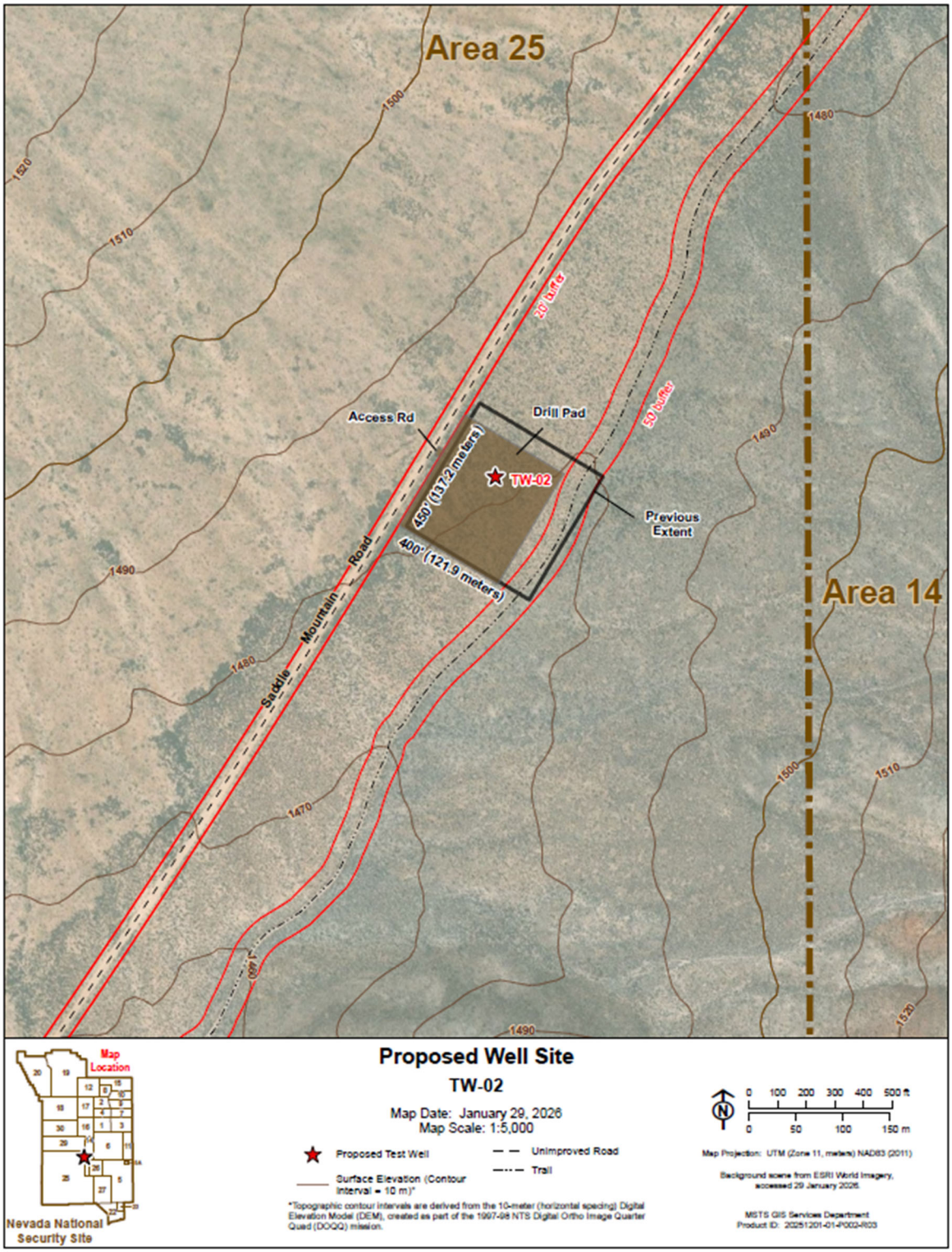
B-26 APPENDIX B - WELL SCHEMATICS – TW01 (OPTION 2)



B-27 APPENDIX C – TEST WELL LOCATIONS



B-28 APPENDIX C – TEST WELL LOCATION – TW02



B-29 APPENDIX C – TEST WELL LOCATIONS & DRILL PADS

